## INSTALLATION RESTORATION PROGRAM

# Final **Remedial Investigation Report**

Volume II Appendix A-L

120th FighterWing Montana Air National Guard Great Falls International Airport Great Falls, Montana

May 1997



HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
Environmental Restoration and Waste Management Programs
Oak Ridge, Tennessee 37831-7606
managed by LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY under contract DE-AC05-84OR21400

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National Guard, Great Falls International Airport, Great Falls

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#### 13. ABSTRACT (Maximum 200 Words)

A Remedial Investigation was conducted at the Great Falls Air National Guard Base during April, May, and July 1996. During the period four IRP sites were investigated (IRP Sites 1, 6, 7, and 8). The investigation consisted of drilling 14 soil borings and installing 10 monitoring wells.

At Sites 1 and 6, no contaminants in the soil or groundwater were found above State and Federal cleanup levels; and a Decision Document to support no further action is recommended. At Sites 7 and 8, no contaminants were found in the soil above State and Federal cleanup levels; and a Decision Document to support no further action with respect to soil contamination is recommended. At Sites 7 and 8, groundwater contamination above State and Federal cleanup levels was detected. The contamination included petroleum hydrocarbons, chlorinated solvents, and dissolved metals. It is recommended that an Engineering Evaluation/Cost Analysis be prepared to evaluate remedial alternatives for the groundwater at Sites 7 and 8.

14. SUBJECT TERMS

Remedial Investigation, Decision Document, Engineering Evaluation/Cost Analysis

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# APPENDIX A FIELD CHANGE REQUEST FORMS

Date: 4/25/96
Field Change No.:
Project No.: 8056-10/ Montana Air National Gillard.
Applicable Document Remedia Investigation / Feasibility Study Work plan April
Description:  Sample identification, Section 6.0 of OAPP. Applicable Section are  6.1 6.4 6-1-2 61.3 and 6.1-4. Pages B6-1, B6-2.
Reason For Change: This Sampling System is Complex and is not applicable for this field activity.
Recommended Disposition:  To use an easier numbering system for soil and groundwater lambles and Saule be identify by Soil boring and dorth, and groundwater lambles be identify by Site leasting well Number and the round of Saupling each. example:  6-58 15-80-8.5
Impact on Present and Completed Work:    Monte 6-7Mw2-Gw1
·
Final Disposition: As Recommended Dafus has.
,
Requested By: Field / Project Manager: Michael M. Chat Zadeh
Approvals: Project Manager: Willer for Fritz Lebow

Date: 4/24/96
Field Change No.:
Project No .: 8056-10/ Montany fir Neutro da Guard, Great Fally, Montana
Applicable Document RIKS Worldon, April 1996, Sep # 4. Reldey Ament  Description:  We of ASTM-TYPE I water rather than ASTAN TYPE IT for explant  Decentation.
Reason For Change:  Dise to the fact that we receid ATM Tyle I water in the field three days before field often too and Astm Tyle II was not available, it was agreed to die Type II. Astmuster for egipt Decon in the field if we collect a suffer of Recommended Disposition:  Agreed to we ASTM Tyle I water for egipt Decon, if analyzing a laples by fixed based lab.
Impact on Present and Completed Work:
Final Disposition:  Used Type I ASTM water for egifut Deton Guerry 19 / Suppry Egipment Decon- All guidantes purply was done by disposable  Daiks, Soit did not effect the Project field grably astective.
Requested By: Field / Project Manager: Mchael M. Chazzado Ph.D Site Manger.
Approvals: Hazulat Sr. Hydrogologist. Project Manager: Willed St. Hydrogologist.

Date: 4/24/96
Field Change No.: 3
Project No.: 8050-101 Mentana Air x/a tional Guand, Great Fell, Montana.
Applicable Document RI / Work Plan, April 1996.
Description:  Change of Soil bosing at Monitoring well location, Pages 6-13, 6-18 of Section  6 of Work Plan.
Reason For Change: 6-5B-18-under electric line 8-588 was moved, new undergrowd whiley line. 6-5B-18-under electric line 8-588 was moved, new undergrowd whiley line.
and the 7-Mw 3 was placed at approximately be from the contract of existing 7-Mw 1 Montant
Recommended Disposition:  No und &B On to the Stay away from Undergood atility lines, My recommendation
7-MN3 was more to have downgadent well and water supple.
Impact on Present and Completed Work: 7-MWS located No of Blog 23 to have on ufgalient well.
Morle
Final Disposition: location were affrond by Sin Hanager (ofteel) and
Harwof Sc. Hydrogoologist! De Bill Heabery.
Requested By: Field / Project Manager: Michael M. Chaziadeh PhD Sik Manager
Approvals: Hazway Sr Hydrogeologit Or By Helbert's Project Manager: Will Lee Fitz Lebu
2. \

Date: 5/3/96
Field Change No.:
Project No.: 8056-101 Montana Air National Grand, Grat Palls, Montana.
Applicable Document RI/FS Work Plan , April 1996. Section 4.3.1, DAPP, Page
Description:  SRI Field GC Praying of Mints of Problem Cart get it he World Profedy,  Communitate with SRI factory and powners, still Could not got the equipment to work: work Plan RF/13 Mail 1996.
Reason For Change:  Several Mediumical and afecting in Problem with field Git. Attempted  for Several Days to offerate the field Git, But attempt, were unsuccessful-
Recommended Disposition:  Discussor Setwen Montana for slatton Cound Project Manager (David Burn, ofterla) and Sr. Hydrogenlogist at Hazurar (On Bill Her berg) and Fritz Lebon (Hazarlar) Project Manager), it was secret to roturn fiell GC and Belant 800 at 10 Mar (1800)
Impact on Present and Completed Work: Three grab gend water Imples from 6-MW,
LONG 7-MUS and 1-MUS and Submit to Caboratry (fixed-Box) and analyte they within 24 hours
Final Disposition: Bu Substitute for pled GC.
Super were Submitted to lab with groundwater grab suples collected for 6-MWI, 7-MW3, and 1-MW2.
Requested By: Field / Project Manager: Mcharl M. Grazindels - Sete Manger as requested
Approvals:  Project Manager: Sr. Hydrogeoleget (Hatwest) Dr. Bill Hod Bong.  William Frite Low

## **OPERATIONAL TECHNOLOGIES**

### MODIFICATION TO WORK PLAN FOR FIELD WORK

ORIGINATOR/DATE: 4/25/96 Project x/o. 8056-10/
ANG BASE/STATION: Montana Air National Guard, Great Fully Mestana
WORK PLAN TOPIC: Montering Well Construction and Completion, Section 7.1.41/ Page 7-3.
7.1.41, Page 7-3.
SUGGESTED MODIFICATION FOR FIELD WORK: Since the actual gamboster
depth is Unform at during the ST investigation they weed 20 of
SUGGESTED MODIFICATION FOR FIELD WORK: Since the actual gamboster  Septh is Unformer and during the ST investigation they well 20 of  Derver, it was decided; Michael M. Chazinder Site Manager and  Bill Hedday (Hazishar) to increase the larges of Streen internal.
REASON FOR MODIFICATION: Use 30 of Screen interval rather than
REASON FOR MODIFICATION: Use 20 of Screen interval rather than  10 of screen as suggested in Workflas Page 7-3, Section  7.1.4.1 (Maniforing well Constructions and Completions).
Sr. Hydrozeologist (HAZUHAP) Affrova : Sete Manyer Affrona : Mi Graf H. Ghazi sedel M.D.
ANGRC PROJECT MANAGER APPROVAL:
Will Holles for Fitz Libou

# APPENDIX B BORING LOGS AND MONITORING WELL CONSTRUCTION LOGS

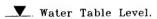
### KEY TO BORING LOG SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2487									
	MAJOR DIV	ISIONS		BOL/ PHIC	DESCRIPTIONS				
	GRAVELS	Clean gravels with	GW	00000 00000	Well-Graded Gravels, Gravel - Sand Mixtures				
S. eve)	GRAVELS	little or no fines	GP		Poorly Graded Gravels, Gravels - Sand Mixtures				
D SOILS #200 Sieve)	(More than 50% of coarse fraction is	Gravels with over	GM		Silty Gravels, Poorly Graded Gravel-Sand-Clay Mixtures				
RAINED Than #2	larger than the #4 sieve size.)	12% fines	GC		Clayey Gravels, Poorly Graded Gravel- Sand-Clay Mixtures				
-GRAINED ler Than #2	CANDC	Clean sands with	sw		Well-Graded Sands, Gravelly Sands				
RSE	SANDS	little or no fines	SP		Poorly Graded Sands, Gravelly Sands				
CO√ CO√	(More than 50% of coarse	Sands with over			Silty Sands, Poorly Graded Sand-Silt Mixtures				
	fraction is smaller than the #4 sieve size.)	12% fines	sc		Clayey Sands, Poorly Graded Sand- Clay Mixtures				
Sieve)					Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands				
SOILS #200 Si	SILTS AN	t less than 50)	CL		Inorganic Clays of Low to Medium Plasticity: Gravelly, Sandy or Silty Clays; Lean Clays				
1	(Esquia simi	· ••••	OL		Organic Clays and Organic Silty Clays of Low Plasticity				
NE-GRAINED Smaller Than	CHTC AN	ID CLAVE	МН		Inorganic Silts, Micaceous or Diatomacious Fine Sandy or Silty Soils, Elastic Silts				
		ID CLAYS greater than 50)	СН		Inorganic Clays of High Plasticity Fat Clays				
FII (>50%	(==1,	,	ОН		Organic Clays of Medium to High Plasticity, Organic Silts				
	HIGHLY ORG	ANIC SOILS	Pt		Peat and Other Highly Organic Soils				



Sample retained for on-site screening.

Sample prepared for laboratory analysis.



PID Photo-Ionization Detector readings (ppm).

ND Parameter Not Detected

NA Measurement Not Applicable, Groundwater Not Detected

- No Measurement Performed

NR No Sample Recovery

Baseline .	Asphaltic Concrete
	Portland Cement Concrete
	Cement Grout
	Boulders or Bedrock

## DRAFT FINAL FIGURE A.1

KEY TO BORING LOG SYMBOLS

120th FG, Montana Air National Guard
Great Falls, Montana



SEPTEMBER 1995

FORMS\KEYLOG2

## OPTECH

### OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 1-MW2**

Project No.:

8056-101

M. Ghazizadeh

Logged By: **Drilling Co.:** 

O'Keefe Drilling Mike Downey

Driller: Date Drilled:

05/01/96

Depth Drilled:

70.0 FT.

Depth To Water:

**Sampling Method:** 

**Date Measured:** 

**Surface Elevation:** 

3550.91 FT.

Rock cuttings from Air Rotary

Drill	ing Mo	ethod:	A	ir Rotar	ry-Hammer	TOC Elevation:	3652.69	9 FT.	
							FIELD	SCREENING	ıg
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
5 —	_				Surface soil, light brown, possample.  Sandstone, silty, light brown, moist, no hydrocarbon odor, yellowish brown sand, slightl	reddish brown, at 7 ft. become	0		
10 -	_				Sandstone, fine to medium-gr moist, no hydrocarbon odor.		0		
15 —	_				Sand, change to silty-clayey YR 6/6), slightly moist, no hyodor.	very fine, (10 ydrocarbon	0		
20 -					Sandstone, poor quality samp little water to cleanup hamme to medium-grained brown sar silty.	er and hole, fine adstone, slightly			
- - - -					Sandstone, light brown, silty, fine-grained slightly moist, no odor.	very o hydrocarbon	0		
25					Same as above.		0		
30 -					Sandstone, silty, light brown, no hydrocarbon odor.	slightly moist,	0		
35 -	_				Sandstone, silty, reddish brow fine-grained, sorted.	vn, very	0		

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 1-MW2**

Project No.:

8056-101

Logged By:

M. Ghazizadeh

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Mike Downey

Date Drilled:

05/01/96

Sampling Method:

Depth Drilled:

70.0 FT.

**Rock cuttings from Air Rotary** 

Depth To Water:

Date Measured:

**Surface Elevation:** 3550.91 FT.

Date Dr. Drilling	ing Method: Air Rotary-Hammer TOC Elevation: 3652.69 FT.							
						FIELD SCREENING		gu
Depth (ft.)	Blows/o	Samples	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
45 —				Same as above, reddish bro	wn.	0		
50 —				Sand, trace of moisture, ab	out 51 ft., slightly	0		
55 —				krilled dust, reddish brown fine-grained sand, no odor. Sand, dark gray, very fine-	silty, very fine-to	0		
60 —				sand, (10 YR 5/1), slightly hydrocarbon odor.	moist, no	0		
65 —				Sand, light gray, very fine- sand, dry, no hydrocarbon brownish gray, very fine-g	rained sand.	0		
70				Sandstone, become dark gr sandstone, (10 YR 5/1), dr odor.	y, no hydrocarbon			
75 —				Total Depth: 70	).0 FT.			-
								_

## OPTECH

OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

### LOG OF BORING 6-SB15

Project No.: Logged By:

8056-101

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: **Date Drilled:**  **Clint Nelson** 

04/26/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

8.1 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.16 FT.

Drilling Method: Hollow-Stem Auger										
							FI	ELD SC	CREENII	NG
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS					
		95			Asphalt.		204			
-   -		93			Sand, some gravel (up to cob fine-to very coarse-grained sa moist, loose, yellowish brown	and, poorly sorted,	394			
-    -	19 45 90	80			Weathered Sandstone, very fisand, little silt, firm, crumble brownish yellow (10 YR 6/6)	with moderate pressure,	9.4			
5 <b>-</b>	65 50/0.2'	30	X		Geotech Sample. Same as ab	oove.	1.2			
-	100/0.4				Same as above.		506			
_	100/0.4				Total Depth: 8.	1 FT. BLS.	536		:	
10 —	-									
_										
_		į								
15 —										

## OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

### LOG OF BORING 6-SB16

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** Driller:

O'Keefe Drilling **Clint Nelson** 

**Date Drilled:** 

04/30/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

9.5 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.69 FT.

Drilli	ng Me	thod:	H	ollow-St	tem Auger				
·	F 2 8 3				FI	ELD SC	REENIN	[G	
h (ft	Blows/6"	cove	Samples	Graphic	DESCRIPTION OF MATERIALS				
Depth (ft.)	Blo	% Recovery	Sar	Gra					
				00000	Concrete.	(ppm)			
				0000		11.1			
	•	90	П		Sand, little to some silt, trace clay, some gravel (up to cobble size), moist, yellowish brown (10 YR 5/4).				
_									
_									
		25			Weathered Sandstone, little to some silt, very fine-to coarse-grained sand, yellowish brown (10 YR 5/6),	25.5			
5 —					coarse-grained sand, yellowish brown (10 YR 5/6), dry.				
_		50			Same as above, strong odor.	790			
10	-				Total Depth: 9.5 FT. BLS.				
_									
-									
_									
_									
15 —	-								
_									

# OPTECH

# OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 6-SB17**

Project No.:

8056-101

Kathryn Pritchett

Logged By: **Drilling Co.:** 

O'Keefe Drilling

Driller:

**Clint Nelson** 

**Sampling Method:** 

3" Stainless-Steel Split Spoon

Depth Drilled:

Depth To Water:

Not Encountered

Date Measured:

NA

9.9 FT.

Date	Drille	d•		4/26/96					
	ing Me				tem Auger	Surface Elevation. 30	70.54 1 1 .		
Depth (ft.)	Blows/6"	% Recovery	Samples		DESCRIPTION O	OF MATERIALS	FIELD	SCREENI	NG
Dept	Blov	% Re	San	Gra			(ppm)		
_		90			Asphalt.  Sand, some silt, little gravel loose, very fine-to coarse-grapoorly sorted, yellowish browns	ained sand, moderate to	478		
	8 11	100	X		Geotech Sample.		30		
	33 100 100/0.3'	50			Weathered Sandstone, well s odor, very fine-to coarse-gra moderate pressure, moist.	orted, light grey color, ined sand, firm, crumble	53		
	100/0.3'	100	X		Geotech Sample.  Sand, some silt, very fine-to well sorted, loose, moist, hydrogen moist, hydr	medium grained sand, drocarbon odor.	178		
10 -	100/0.4	65			Same as above.  Total Depth: 9	.9 FT. BLS.	660		
15	_								

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### LOG OF BORING 6-SB18

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: **Clint Nelson** 

04/26/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

8.3 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.42 FT.

Drill	ing Me	thod:	H	ollow-St	tem Auger				
		5.				FII	ELD SCI	REENIN	G
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	PID (ppm)			
_		100			Asphalt.  Sand, little silt, little to some gravel (up to pebble size), dry to slightly moist, loose, very coarse-grained sand.	1.2			:
-	23 26	100	X		Geotech Sample.  Bedrock encountered.	0			
5 -	52 100/0.2'	25	X		No sample collected-except GC (field). Weathered sandstone, little silt, very fine-to coarse-grained sand, firm, crumbles with medium pressure, moderate to well-sorted sandstone, yellowish	1.4			
	68 100/3'	35			brown, (10 YR 5/6). Same as above.	55			
_	100/0.3'	60			Sand, some silt, trace clay, very fine-to coarse-grained sand, loose, dry, yellowish brown (10 YR 5/6).  Total Depth: 8.3 FT. BLS.	100			
10 -									
-									
15 –									

## OPTECH

OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

### **LOG OF BORING 6-DW1**

Project No.: Logged By:

8056-101

Kathryn Pritchett

**Drilling Co.:** Driller:

O'Keefe Drilling **Clint Nelson** 

Date Drilled:

04/27/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled: 7.6 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.35 FT.

Date Drilled: 04/27/96 Drilling Method: Hollow-Stem Auger				Surface Elevation:	3676.35 FT.		
					FIELD SCREENING		
Depth (ft.) Blows/6" % Recovery	Samples	Graphic	DESCRIPTION O	F MATERIALS	PID (ppm)		
			Asphalt.				
5 — 100   100			Sand, little silt, trace clay, lit (granule to pebble size), very sand, moist, dark grey (10 Yl loose, fill with pea gravel.	tle to some gravel fine-to coarse-grained R 4/1), strong odor,	346		
100/0.3 35			Same as above.  Total Depth: 7.	6 FT. BLS.	633		
10 —							
_							
15 —							
				,			
		100					

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 7-DW1**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: **Clint Nelson** 04/27/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

4.2 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.10 FT.

Drill	ing Me	thod:	H	lollow-St	tem Auger				11 800 1 10 10
÷	•	ry			·	FI	ELD SC	REENIN	NG
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	PID (ppm)			
				a sold	Asphalt.				
_		80			Sand, some silt, trace to little clay, very fine-to medium-grained sand, brown (10 YR 4/3), moist, firm, hard.	42			
5 —	100	100	X		Sand, some silt, little gravel (pebble size), very fine-to coarse-grained sand, moderate to poorly sorted, greyish brown (10 YR 5/2), firm, hard, clay at bottom of spoon, some silt, light grey (10 YR 7/1), hard, very dense.  Total Depth: 4.2 FT. BLS.	37			
					Total Depair 112 TT BEST				
10 —									
- 15 <del>-</del> -									
_									

## OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 7-SB5**

Project No.:

8056-101

Kathryn Pritchett

Logged By: **Drilling Co.:** 

O'Keefe Drilling

**Driller:** Date Drilled:

**Clint Nelson** 

04/27/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

8.6 FT.

Depth To Water:

**Not Encountered** 

**Date Measured:** 

NA

**Surface Elevation:** 

3675.74 FT.

Drilling M	ethod:	Н	ollow-St	tem Auger	Surface Lievation.			
						FIEL	D SCREEN	ING
Depth (ft.) Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION O	F MATERIALS	PID (ppm)		
				Asphalt.				
- 16 - 13 - 12 18	65			Silt, little to some clay, trace firm, moist, light grey (10 Y structure sand.	gravel (cobble), stiff, R 7/1), small prismatic	153		
5 - 60 100/0.4	65			Sand, some silt, very fine-to hard, very dense, dry, brown	medium-grained sand, hish yellow (10 YR 6/6).	19		
10 — 61 102/0.1	95			Silt, trace sand (very fine-grasandstone gravel (cobble size sand, moderately sorted, clay greyish brown (10 YR 5/2), dense.  Total Depth 8.	), fine-to coarse-grained at bottom of split spoon, very plastic, hard, very	761		

# OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 7-SB6**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:
Date Drilled:

Clint Nelson

**Drilling Method** 

04/27/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled: 8

8.0 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3676.50 FT.

Drilli	ng Me	thod:	H	ollow-St	tem Auger				-
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	PID	ELD SC	REENIN	iG
De	8	%	S	9		(ppm)			
		75			Sand and silt, trace clay, trace gravel (granule to pebble), dark brown (10 YR 3/3), moist, soft, loose, very fine-to coarse-grained sand.	32			
5 —	22 39 37 — 59	80			Sand and silt, little clay, very fine-to medium-grained sand, yellowish brown (10 YR 5/4), trace gravel (granule), hard, dense, moist.	1.5			
	80 100/0.3'				Sand (weathered sandstone), little silt, very fine-to medium-grained sand, hard, very dense, crumbles with moderate pressure, slightly moist, hydrocarbon odor.  Total Depth: 8.0 FT. BLS.	232			
10 -									
15									
					·				

## OPTECH OPERATIONAL TECHNOLOGIES

OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

### **LOG OF BORING 7-SB7**

Project No.:

8056-101

Kathryn Pritchett

Logged By: Drilling Co.:

O'Keefe Drilling

Driller:
Date Drilled:

Clint Nelson

04/27/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled: 8.3 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3675.97 FT.

	ng Me			4/2//90 [ollow-St	em Auger	in face Elevation. 507	3.97 F I .			
t.)	Ę.,	ery	Š	ပ			FIEI	LD SCI	REENIN	NG
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M	MATERIALS	PID (ppm)			
					Asphalt.					
		100			Silt, some sand, loose, soft, very coarse-grained sand, brownish y clay at bottom of split spoon, lig stiff, firm.	y fine-to ellow (10 YR 6/6), ht grey (10 YR 7/1),	33			
5 —	36 24 59 100/.3	100			Weathered sandstone, little to so very fine-to medium-grained sandense, slightly moist, brownish y hydrocarbon odor.	d, hard, dense to very	458			
	100/0.1	25	X		Same as above, hydrocarbon odd		218			
_					Total Depth: 8.3 I	FT. BLS.				
10	_									
15 —	_									
									TOP IN	

# OPERATIONAL TECHNOLOGIES CORPORATION

### LOG OF BORING 8-SB6

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Clint Nelson

Date Drilled:

04/25/96

U4/25/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled: 10

10.3 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3675.99 FT.

FIELD SCREENING  PID  Asphalt.  Sand, some silt, trace clay, very fine-to very coarse-grained sand, light grey brown, soft, crumble with pressure, dry to moist, weathered sandstone at end.  Coarse-grained sand, light grey brown, soft, crumble with pressure, dry to moist, weathered sandstone at end.  Sand, sweathered sandstone.  Sand, weathered sandstone.  Sand, weathered sandstone.  Sand, weathered sandstone.  Sand, silt, light yellowish brown to reddish brown, moist, soft, loose, well-sorted.  Geotech Sample.  Sand, weathered sandstone, very fine-to coarse-grained sand, silt, light yellowish brown to reddish brown, moist, soft, loose, well-sorted.  Geotech Sample.  Sand, weathered sandstone, very fine-to coarse-grained sand, dry, 3.3
Asphalt.  Sand, some silt, trace clay, very fine-to very coarse-grained sand, light grey brown, soft, crumble with pressure, dry to moist, weathered sandstone at end.  22 50 Geotech Sample. Very weathered sandstone.  5 Sand, weathered sandstone, very fine-to coarse-grained sand, silt, light yellowish brown to reddish brown, moist, soft, loose, well-sorted.  Geotech Sample.  5 Geotech Sample.  75 60 Sand little silt very fine-to coarse-grained sand, dry.  75 60 Sand little silt very fine-to coarse-grained sand, dry.  3.3
Sand, some silt, trace clay, very fine-to very coarse-grained sand, light grey brown, soft, crumble with pressure, dry to moist, weathered sandstone at end.  22 50 Geotech Sample. Very weathered sandstone.  5 Sand, weathered sandstone, very fine-to coarse-grained sand, silt, light yellowish brown to reddish brown, moist, soft, loose, well-sorted.  6 Geotech Sample.  7 Geotech Sample.
loose, light to medium yellowish brown.  Total Depth: 10.3 FT. BLS.

# OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 8-SB7**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Clint Nelson

04/25/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

10.3 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3675.79 FT.

Date Dril Drilling N			)4/25/96 Hollow-S	tem Auger	Surface Elevation: 36	75.79 FT.		
				Aug.		FIEL	D SCREEN	IING
Depth (ft.) Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION O	F MATERIALS	PID (ppm)		
	80			Asphalt.  Sand, little to some silt, trace to dry, loose, very fine-to coamedium yellowish brown.	clay, little gravel, moist arse-grained sand,	174		
- 45 61	50	X		Geotech Sample.		3.3		
$5 - \frac{21}{60}$		X		Sand, little silt, trace gravels fine-to coarse-grained sand, n loose, dry.	nedium yellowish brown,	20.6		
39 100/0.	45 4'	X		Geotech Sample. Strong odo	r, same as above.	506		
10	60			Sand (weathered sandstone), coarse-grained sand, well-sort brown with light grey mottles pressure, hydrocarbon odor, 1  Total Depth: 10	ted, light yellowish, hard, loose with moist.	304		
15 —								

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 8-SB8**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Clint Nelson

Date Drilled:
Drilling Method

04/25/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

10.5 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3675.95 FT.

Drilli	ing Me	thod:	H	ollow-St	em Auger			
•	=	Ţ	20	e)		FII	ELD SCREENIN	\G
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	PID (ppm)		
_	4 5 6	90			Asphalt.  Sand, some silt, little clay, very fine-to coarse-grained sand, trace gravel (pebbles), soft, moist, medium yellowish brown.	20.7		
5 —	30 80 50/0.1'	100			Sand, very fine-to coarse-grained sand, trace silt, weathered sandstone, dry to moist, hard, light yellowish brown.	94		
10 -	34 91	100			Weathered sandstone, very fine-to medium-grained sand, trace gravel (pebble size), dry, light yellowish brown, well-sorted.  Total Depth: 10.5 FT. BLS.  Note: Spoon refusal at 5.5 FT. auger (bit) to 9.5 FT. and broke up sandstone to drive spoon 9.5 FT. to 10.5 FT. PID reading inside of borehole 800 to 900 ppm range, hydrocarbon odor apparent.	47		

## OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 8-SB9**

Project No.:

8056-101

Kathryn Pritchett

Logged By: **Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: Clint Nelson

04/30/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled: 9.4 FT.

Depth To Water:

**Not Encountered** 

**Date Measured:** 

NA

**Surface Elevation:** 

3675.93 FT.

Drilling Method: Hollow-Stem Auger								
						FIE	ELD SCREEN	NING
Depth (ft.) Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION O	F MATERIALS	PID (ppm)		
_	100			Asphalt.  Sand, some silt, some gravel 3/3), very fine-to coarse-graito pebble size gravel.	, dark brown (10 YR ned sand, moist, granule	0		
5 -40	100			Weathered sandstone, yellow slight moist, very fine-to coar well-sorted.	ish brown (10 YR 5/4), rse-grained sand,	113		
100/0.4*	90			Same as above, yellowish brown Total Depth: 9		11.1		

## OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 8-SB10**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Clint Nelson

Date Drilled:

04/30/96

Sampling Method:

3" Stainless-Steel Split Spoon

Depth Drilled:

9.9 FT.

Depth To Water:

**Not Encountered** 

Date Measured:

NA

**Surface Elevation:** 

3675.00 FT.

	Drilling Method: Hollow-				em Auger					
Dim	ing ivie			.onow-bi	em riagei		FII	ELD SCI	REENIN	IG
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION O	OF MATERIALS	PID (ppm)		=	
					Asphalt.					
		75			Sand, some silt, some gravel fine-to coarse-grained sand, brown (10 YR 4/3), gravels.	moist, brown to dark	0			
5 <b>-</b>	- 1 2 3 2	100	X		Sand, little silt, little gravel, 5/4), granule to pebble size g	yellowish brown (10 YR gravel, wet, soft.	58			
_	74	80	×		Bedrock encountered.  Sandstone, brownish yellow	(10 YR 6/6), dry, some	92			
10 —	100/0.4				silt, very fine-to medium-gra Total Depth: 9	ined sand.				
_										
15 <del>-</del>										
_										

#### OPERATIONAL TECHNOLOGIES CORPORATION

#### **LOG OF BORING 6-MW2**

Project No.: 8056-101 Sampling Method: **Rock cuttings from Air Rotary** Logged By: Kathryn Pritchett Depth Drilled: 62.2 FT. **Drilling Co.:** O'Keefe Drilling Depth To Water: 44.0 FT. Driller: Mike Downey **Date Measured:** 04/30/96 **Date Drilled:** 04/24/96 **Surface Elevation:** 3676.16 FT. **Drilling Method:** Air Rotary-Hammer **TOC Elevation:** 3675.86 FT. FIELD SCREENING Monitoring % Recovery Depth (ft.) Graphic Blows/6" Samples DESCRIPTION OF MATERIALS PID (ppm) Asphalt. Silt, some sand. Weathered Sandstone, some silt, very fine-to medium-grained, sandstone, brownish vellow (10 YR 6/6). Sandstone/Siltstone, very fine-grained sand, pale brown to pink (10 YR 7/4 to 7.5 YR 7/4), dry. Weathered Sandstone, brownish yellow (10 0 YR 6/6), little to some silt, dry. Weathered Sandstone/Siltstone, very pale 0 brown-pink, (10 YR 7/4 to 7.5 YR 7/4), very fine-to medium-grained sand. Sandstone, fine-to medium-grained, light 0 brown, sorted, no hydrocarbon odor, slightly moist. Sandstone, fine-grained, light brown (10 YR 6/4), sorted, no hydrocarbon odor, slightly moist. Sandstone, fine-grained sandstone, reddish brown, moist at 34 FT. Sandstone, reddish brown (10 YR 7/4), moist, yellowish brown sandstone, fine-grained, moist, no hydrocarbon odor.

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

## LOG OF BORING 6-MW2

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: Mike Downey

04/24/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

62.2 FT.

Depth To Water:

44.0 FT.

Date Measured:

04/30/96

**Surface Elevation:** 

3676.16 FT.

2000	04/24/96	YY	TOC Elevation: 3675.86 FT.				
Drilling Method:	Air Kotar	y-Hammer	TOC Elevation.	1	D SCREENING	<b>DA</b>	
Depth (ft.)  Blows/6"  Recovery	Graphic	DESCRIPTION OF M.	ATERIALS	PID (ppm)	DSCREENING	Monitoring Well	
45 —		Sand, interbedded yellowish reddish brown fine-grained so hydrocarbon odor, moisture-at 44 FT.  Sandstone, reddish brown, sa moist.  Same as above.  Sandstone, very fine-to fine-shydrocarbon odor, dark gray Sandstone, dark grey (10 YR fine-to fine-grained, no odor.)  Total Depth: 62.2 F	grained, no , (10 YR 4/1).  4/1), very , not moist.	(PPIII)			

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

#### **LOG OF BORING 6-MW3**

Project No.:

8056-101

Kathryn Pritchett

Logged By: **Drilling Co.:** 

O'Keefe Drilling

Driller:

Mike Downey

Sampling Method:

Rock cuttings from Air Rotary

Depth Drilled: 65.0 FT.

Depth To Water:

43.0 FT. BLS

**Date Measured:** 

04/30/96

Date Drilled: 04/29/96 Drilling Method: Air Rotary-Hammer					v-Hammer	Surface Elevation: 3676.60 FT. TOC Elevation: 3676.32 FT.				
	r.) S" ery					FIELD SCREENING			g.	
Depth (ft.)	. Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M.	DESCRIPTION OF MATERIALS				Monitoring Well
	- Carlotte				Silt, some sand, dark yellowi YR 4/4), moist.  Weathered Sandstone, some		0.5			
5 —	_				brown (10 YR 5/4), fine-grained very fine-to medium-grained well-sorted to moderately sor Sandstone/Siltstone, pink (7.5)	ned sandstone, sand, ted, dry. 5 YR 7/4).	107			
10 -	-	7.77			Sandstone, yellowish brown (some silt, fine-grained sand to medium-grained sand, dry.	10 YR 5/6), o some	69	i.		
15 -	-			× × × × × × × × × × × × × × × × × × ×	Siltstone, interbedded shaley		282			
20	-				Sandstone, very fine-to fine-g silt, very pale brown (10 YR well-sorted. Sandstone, light brown, fine- very little silt.	7/4),	8			
25				<pre></pre>	Siltstone, fine grained, light be 6/4), sandstone, silty with lay medium-grained sandstone, li medium-grained sandstone from 30.0 ft.	ers of ght brown,				
30					Sand, fine-to very fine-graine bedded, no hydrocarbon odor	d, thinly				
33 -					Silty Sandstone, fine-grained, (10 YR 6/4), thinly bedded, n odor.	light brown o hydrocarbon				

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 6-MW3**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: **Date Drilled:**  Mike Downey

04/29/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

65.0 FT.

Depth To Water:

43.0 FT. BLS

Date Measured:

04/30/96

**Surface Elevation:** 

3676.60 FT.

	illing Method: Air Rotary-Hammer TOC Elevation: 3676.32 FT.								
÷		Ţ	,,			FIELD SCREENING		gu	
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
45 —					Sandstone, fine-grained, slig at 43.0 FT., red color (10 Y Sandstone, fine-grained, slig laminated, no hydrocarbon of moist, red color.	R 7/4). ghtly silty, thinly			
50 -	_				Sandstone, fine, slightly silty change color to yellowish by 54.0 ft. had 2 inches dark greater grained sandstone.	rown, moist, at			
55 —					Sandstone, top 1 FT. light g very fine-to fine-grained, 57 sandstone, thinly bedded, no odor.	1.0 FT. dark grey			
60 -					Sandstone, fine-grained, dar 4/1), no hydrocarbon odor.				
					Total Depth: 65.0 I	FT. BLS.			
70 —	_								-

# OPTECH

### **OPERATIONAL TECHNOLOGIES** CORPORATION

## LOG OF BORING 7-MW2.

Project No.: Logged By:

8056-101

M. Ghazizadeh

**Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: Mike Downey 04/28/96

Sampling Method:

**Rock cuttings from Air Rotary** 70.8 FT.

Depth Drilled:

Depth To Water:

45.0 FT.

Date Measured:

05/01/96

Surface Elevation

3676 53 FT

	ate Drilled: 04/28/96 Surface Elevation: 3676.53 FT. rilling Method: Hollow-Stem Auger (Surface Drilling) TOC Elevation: 3676.21 FT.					
					FIELD SCREENING	50
Depth (ft.) Blows/6"	% Recovery	Sampres	DESCRIPTION OF MA	ATERIALS	PID (ppm)	Monitoring Well
5 — 10 — 20 — 25 — 30 — 35 — —		× × × × × × × × × × × × × × × × × × ×	Asphalt.  Silt, little to some clay, trace pebble size), greyish brown (moist.  Top with weathered Bedrock sandstone, some silt, brownis YR 6/6), dry, no odor, very medium-grained sand.  Sandstone/Siltstone, very fine pink (10 YR 7/4), no odor.  Sandstone, fine-grained sand, yellowish brown (10 YR 5/4)  Siltstone, with interbedded sh pull augers at 20 FT.  Sandstone, fine-grained, some YR 7/4) to brownish yellow (  Sandstone/Siltstone, very fine well sorted, dry, very pale br 7/4).  Same as above.	ine-grained th yellow (10 fine-to e-grained, dry, some silt,  ale, wet silt as e silt, pink (7.5 10 YR 6/6).	0 2 0 0 6.9 27 30 8 0	

# OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### **LOG OF BORING 7-MW2**

Project No.:

8056-101

Logged By:

M. Ghazizadeh

**Drilling Co.:** 

O'Keefe Drilling

Driller: Data Drillade Mike Downey

04/29/06

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

70.8 FT.

Depth To Water:

45.0 FT.

Date Measured:

05/01/96

Surface Elevation:

3676.53 FT.

Date Drilled: Drilling Method:	04/28/96 Hollow-St	tem Auger (Surface Drilling)	Surface Elevation: 3676.53 FT.  TOC Elevation: 3676.21 FT.			
	Honow-Si	tem Auger (Surface Diming)		FIELD SCRI	EENING	<b>20</b>
Depth (ft.) Blows/6" % Recovery	Samples	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
45 —		Same as above.  Sandstone, very fine-to medicand, some silt, yellowish broshlydrocarbon odor.  Same as above.  Same as above, yellowish broshlydrocarbon odor.  Same as above, slightly moishlydrocarbon odor.  Same as above, slightly moishlydrocarbon odor.	own (10 YR t, slight own (10 YR , well sorted, , and, dry.			

## OPTECH

### **OPERATIONAL TECHNOLOGIES** CORPORATION

### **LOG OF BORING 7-MW3**

Project No.:

8056-101

M. Ghazizadeh

Logged By: **Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: Mike Downey

05/01/96

Sampling Method:

Depth Drilled:

Rock cuttings from Air Rotary 70.0 FT.

Depth To Water:

**Date Measured:** 

**Surface Elevation:** 

3667.31 FT.

Drillin	g Met	hod:	A	ir Rotar	y-Hammer	TOC Elevation: 3667.82 FT.					
ft.)		ľ	Ţ.	Ţ	100				FIEL	D SCREENING	g g
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well		
5 —					Sandstone, red, silty, fine-gr moist, no hydrocarbon odor. Sandstone, light brown, fine- moist, yellowish brown.		0				
10		a contract of the contract of			Sandstone, light brown, very fine-grained, moist, yellowis hydrocarbon odor.	fine-to h brown, no	0				
15 -					Sandstone, 15.5 ft. reddish b fine-grained, slightly moist, sodor. Sand, light brownish tan, ver no hydrocarbon odor.	no hydrocarbon	0				
20 —					Same as above.		0				
25					Same as above.		0				
30					Sandstone, reddish brown, ve fine-grained, slightly moist, (hydrocarbon odor.	10 YR 7/4), no	0				
33 —					Sandstone, reddish brown, ve fine-grained, slightly moist, rodor.	ery fine-to no hydrocarbon	0		×22 ×22		

## OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

### LOG OF BORING 7-MW3

Project No.:

8056-101

Logged By:

M. Ghazizadeh

**Drilling Co.:** 

O'Keefe Drilling

Driller:

Mike Downey

**Date Drilled:** 

05/01/96

Sampling Method:

Rock cuttings from Air Rotary

Depth Drilled:

70.0 FT.

Depth To Water:

Date Measured:

3667.31 FT. **Surface Elevation:** 

Date Drilled: U5/01/90				TIOMPHON	TOC Elevation: 3667.82 FT.				
Drilling Method: Air Rotary-Hamme				y-mammer	TOC Elevation.	1			
Depth (ft.)	Blows/6" % Recovery	Samples	Graphic	DESCRIPTION OF M	ATERIALS	PID (ppm)	ELD SCREENING	Monitoring Well	
45				Sandstone, reddish brown, verifine-grained, moisture contenslightly at 45 ft.  Sandstone, reddish brown, management of the fine-grained, possibly	nt increases	0			
50 -				Sandstone, at 53 ft. changes color, very fine-to fine-grain hydrocarbon odor.		0			
55				Sandstone, changes to light g ft., very fine-grained, no hyddry, (10 YR 4/1). Sandstone, light gray. Sandstone, dark gray, very f fine-grained, dry, no hydroca	ine-to	0			
60 —				·		0			
65 —				Sandstone, dark gray, very f fine-grained, (10 YR 4/1).	ine-to	0			
70 —				Total Depth: 70 F1	T. BLS.			-	
75 —								-	

### OPTECH

#### **OPERATIONAL TECHNOLOGIES** CORPORATION

Rock cuttings from Air Rotary

### LOG OF BORING 7-MW4

Project No.:

8056-101

Kathryn Pritchett

Logged By: Drilling Co.:

O'Keefe Drilling

Driller:

Mike Downey

**Sampling Method:** 

Depth Drilled: 71.0 FT.

Depth To Water:

Date Measured:

Driller:	ad.		11ke Dov	wney	Date Measured:				
Date Drille			4/28/96	tem Auger (Surface Drilling)	Surface Elevation				
	emou:	H	опом-2	tem Auger (Surface Drining)	TOC Elevation:	3675.98			
£ 5	ery	S.	ပ			FIELD S	CREENING	gu	
Depth (ft.) Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M.	ATERIALS	PID		Monitoring Well	
)epi	R	Sar	E					[On:	
	1 %					(ppm)		Σ	
			8.04.140	Asphalt.		0			
				Silt, little clay, little sand, tra	ce gravel, dark				
				grey (10 YR 4/1), moist, no	odor.				
_									
5 —			× × × × × × × ×	Weathered Sandstone, fine-gr	ained sand,	0			
			$\times$ $\times$ $\times$ $\times$	yellowish brown (10 YR 5/6) little to some gravel (cobbles-					
			× × × × × × × ×	sandstone, very fine-to mediu					
10			× × × × × × × × × × × × × × × ×	sand).					
10 —			× × × × ×	Collected GC sample.		1.2			
			× × × × × × × × × × × × × × × ×			70			
_			× × × ×						
1.5			* * * * *			69			
15			× × × × × × × × × × × × × × ×			130			
_			× × × × ×	Siltetone interhedded shale w	allowish has				
		-	× × × ×	Siltstone interbedded shale, yo (10 YR 5/6) at 17 FT., grant	ile to pebble				
20			:::::::	size interbedded, weathered					
20 —				sandstone/siltstone, yellowish 5/6) at 18 FT.	brown (10 YR	3.4			
_			: : : : : : : : : : : : : : : : : : : :	Weathered Sandstone/Siltston	e verv	3.4			
_				fine-grained sandstone, yellow	vish brown (10				
25				YR 5/6). Weathered Sandstone, fine-gr	ained to				
25 —		Ì		medium-grained, light brown	fine to				
				medium-grained, sorted, no h	ydrocarbon				
		ĺ		odor, slightly moist, slightly s Sandstone, light brown (10 Y		İ			
20				fine-grained, sorted, slightly i	noist, no				
30 —				hydrocarbon odor, slightly sil	ty.				
				Sandstone, light red to light by 7/4), fine-grained, silty, no hy	rown (10 Yr				
				odor, slightly moist,.	, an oour oon				
25									
35 —				Sandstone, red, fine-grained,	no hydrocarbon				
				odor, silty, slightly moist.					

## OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

#### **LOG OF BORING 7-MW4**

Project No.:

8056-101

Logged By: **Drilling Co.:**  Kathryn Pritchett O'Keefe Drilling

Driller:

Mike Downey

Sampling Method: Depth Drilled:

71.0 FT.

Depth To Water:

Date Measured:

**Rock cuttings from Air Rotary** 

Date D	rilled: g Method:	04/28/96 Hollow-St	tem Auger (Surface Drilling)	Surface Elevation TOC Elevation:	a: 3676.29 FT. 3675.98 FT.	
	Blows/6" % Recovery :poundary	Samples Graphic	DESCRIPTION OF M		FIELD SCREENING PID (ppm)	Monitoring
45 — 50 — 55 — 60 — 70 — 75 —			Sandstone, red, fine-grained silty, slightly moist, no hydrostone, red, very fine-to slightly moist, no hydrocarbo 7/4).  Sandstone, red, very fine-to sand, slightly moist, no hydr (10 YR 7/4), slight odor at 5 change to light grey color (16 fine-grained sandstone.  Sandstone, light grey, very ffine-grained, thinly-bedded chydrocarbon odor, sandstone slightly darker at 58 ft.  Sandstone, dark grey (10 YR fine-to fine-grained, no hydrot moist.  Sandstone, dark grey, very ffine-grained, (10 YR 4/1), nodor, not moist.  Total Depth: 71.0 F	fine-grained, on odor, (10 YR)  fine-grained ocarbon odor, 3-54 ft., 54 ft. (10 YR)  fine-to clay, no electroning  8 4/1), very ocarbon odor,		

well-sorted.

sand, dry.

moist, well sorted.

Same as above.

Sandstone/Siltstone, very pale brown to pink, (10 YR 7/4-7.5 YR 7/4), very fine-grained

Sandstone, some silt, light yellowish brown, (10 YR 6/4), very fine-grained sand, slight

### OPTECH

OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

#### **LOG OF BORING 7-MW5**

Project No.: 8056-101 Sampling Method: **Rock cuttings from Air Rotary** Logged By: Kathryn Pritchett Depth Drilled: 82.0 FT. **Drilling Co.:** O'Keefe Drilling Depth To Water: 52.0 FT. BLS Driller: Mike Downey Date Measured: 04/29/96 **Date Drilled:** 04/28/96 **Surface Elevation:** 3675.81 FT. **Drilling Method: Hollow-Stem Auger TOC Elevation:** 3675.55 FT. BLS FIELD SCREENING Monitoring % Recovery Depth (ft.) Blows/6" Samples Graphic **DESCRIPTION OF MATERIALS** PID (ppm) 0 Asphalt. Silt, little to some sand, very fine-to coarse-grained sand, brownish yellow (10 YR 6/6), little gravel (pebble size), dry. Weathered Bedrock, (sandstone/siltstone). Silt, little to some sand, dry, light yellowish 0 brown (10 YR 6/4), very fine-to medium grained sand, weathered, sandstone/siltstone. 120 very fine-grained. 30 Weathered Sandstone, very fine-grained, sand, very fine-to coarse-grained sand, some silt, pebbles and cobbles in cuttings, sandstone, light yellowish brown (10 YR 40 15 6/6), dry, brownish yellow. 5 Siltstone, thinly-bedded, shaley siltstone. 50 balls break up like silt. Clay, brown (10 YR 5/3), balls, moist, wet. 53 Sandstone, very fine-grained. Sandstone, some silt, light yellowish brown (10 YR 6/4), very fine-grained sandstone, very fine-to medium grained sand, dry,

# OPERATIONAL TECHNOLOGIES

OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

#### **LOG OF BORING 7-MW5**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller:
Date Drilled:

Mike Downey

04/28/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

82.0 FT.

Depth To Water:

52.0 FT. BLS

Date Measured:

04/29/96

**Surface Elevation:** 

3675.81 FT.

Date Drill			4/28/90 [ollow St	tom Auger	TOC Elevation:		.55 FT. BLS	
Drilling N	Ternoa:	Н	оцом-51	tem Auger				
Depth (ft.) Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M.	ATERIALS	PID (ppm)	D SCREENING	Monitoring Well
50				Same as above, slight odor.  Sandstone, some silt, dark gr moist, very fine-grained sand	rey (10 YR 4/1), I, well sorted.			
65 —				Same as above, dark grey, (1) Shaley Sandstone, silt, grey (well sorted, dry, very fine-gr	(10 YR 4/1),			
70				Same as above.				
80				Same as 65-70 ft. interval, do  Same as above, dry.  Total Depth: 82.0 F	/		·	
85 —								-

## O P T E C H OPERATIONAL TECHNOLOGIES CORPORATION

#### **LOG OF BORING 8-MW2**

Project No.:

8056-101

Kathryn Pritchett

Logged By: **Drilling Co.:** Driller:

O'Keefe Drilling Mike Downey

**Sampling Method:** 

**Rock cuttings from Air Rotary** 65.0 FT.

Depth Drilled: Depth To Water:

45.0 FT.

**Date Measured:** 

05/02/96

Date Drilled:	05/02/96		on: 3675.90 FT. 3675.64 FT.				
Drilling Method:		ry-Hammer	TOC Elevation:	FIELD SCREENIN	√G ≌		
Depth (ft.) Blows/6" % Recovery	Samples	DESCRIPTION OF M	ATERIALS	PID (ppm)	Monitoring		
5 — 10 — 15 — 20 — 25 — 30 — 35 — —		Sandstone, some silt, yellowing YR 5/6), moist, very fine-to sand, well-sorted.  Sandstone/Siltstone, brownist 6/6), dry, very fine-to fine-grade well sorted.  Same as above.  Same as above.  Same as above.	medium-grained h yellow (10 YR				

### OPTECH **OPERATIONAL TECHNOLOGIES** CORPORATION

#### **LOG OF BORING 8-MW2**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: Date Drilled: Mike Downey 05/02/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

65.0 FT.

Depth To Water:

45.0 FT.

Date Measured:

05/02/96

**Surface Elevation:** 

3675.90 FT.

2675 64 ET

Drilling Method: Air	r Rotar	otary-Hammer TOC Elevation: 3675.64 FT.				
			FIELD SCREENING		80	
Depth (ft.) Blows/6" % Recovery	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
45 — 50 — 55 — 60 — 70 — 75 —		Same as above.  Sandstone, light yellowish br 6/4), some silt, very fine-to sand, well-sorted, moist.  Same as above.  Same as above, brown (10 Y Shaley Sandstone, grey (10 Y Silt, dry, well-sorted, very fine-grained sand.  Same as above.  Same as above, dark grey (1 dark grey (10 YR 3/1).  Same as above, grey (10 YR Total Depth: 65.0 F	7R 5/3). YR 5/1), some ine-to  O YR 4/1), very			

## OPERATIONAL TECHNOLOGIES CORPORATION

#### **LOG OF BORING 8-MW3**

Logg Drill Drill Date	Project No.: 8056-101  Logged By: Kathryn Pritchett  O'Keefe Drilling  Oriller: Mike Downey  Otate Drilled: 04/28/96  Orilling Method: Air Rotary-Hammer				Orilling vney	Sampling Metho Depth Drilled: Depth To Water Date Measured: Surface Elevation TOC Elevation:	n: 3	Rock cuttings 55.0 FT. 50.0 FT. 05/02/96 6675.96 FT. 6675.66 FT.	Monitoring Well
Dept	Blov	% Re	San	Gra			(ppm)	)	Moni
5 — 10 — 15 — 20 — 30 — 35 — — — — — — — — — — — — — — — — —					Sandstone, some silt, very fir coarse-grained sand, moderar well-sorted, moist, brownish 6/6).  Sandstone, some silt, very fir medium-grained, brownish ye 6/6), slightly moist, well-sort dry, very pale brown (10 YR).  Sandstone, some silt, very fire dry, very pale brown (10 YR).  Sandstone, some silt, very fire fine-grained sand, moist, well.  Same as above.	tely to yellow (10 YR  ne-to ellow (10 YR ed.  e-grained sand, 7/4).			

## OPTECH

**OPERATIONAL TECHNOLOGIES** CORPORATION

#### **LOG OF BORING 8-MW3**

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Driller: **Date Drilled:**  Mike Downey

04/28/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

65.0 FT.

Depth To Water:

50.0 FT.

Date Measured:

05/02/96

**Surface Elevation:** 

3675.96 FT.

Date Drilled: 04/28/96 Surface Elevation: 3675.50 FT.  Drilling Method: Air Rotary-Hammer TOC Elevation: 3675.66 FT.										
Drillin	g Meth	iod:	Air F	cotary	-Hammer	TOC Elevation:			INIC	
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M.	ATERIALS	PID (ppm)	LD SCREEN	ING	Monitoring Well
45					Same as above, yellowish bro 5/4). Same as above, brown (7.5 Yellowish bro 5/4).  Same as above, brown (7.5 Yellowish bro 5/4).	/R 5/4).				
55 -					Same as above.  Shaley Sandstone, some silt,	very fine-to				
60 -	•				fine-grained sand, grey (10 ) Same as above.	(R 5/1), dry.				
65	-				Same as above.  Total Depth: 65.0 F	T. BLS.				-
70 -	-									-
75										-

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OPERATIONAL TECHNOLOGIES C O R P O R A T I O N

#### **LOG OF BORING 8-MW4**

Project No.: Logged By:

8056-101

Kathryn Pritchett

**Drilling Co.:** 

O'Keefe Drilling

Sampling Method: Depth Drilled:

Rock cuttings from Air Rotary

65.0 FT.

Depth To Water:

40.0 FT.

Driller: Mike Downey Date Drilled: 05/02/96				vney	Date Measured: Surface Elevation	05/0	) F 1 . )2/96 4.98 FT.		
Drillin	ng Met	hod:	A	ir Rotar	y-Hammer	<b>TOC Elevation:</b>		4.68 FT.	
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF M.	ATERIALS	PID (ppm)	LD SCREENING	Monitoring Well
45 — 50 — 55 — 60 — 70 — 75 —					Same as above, yellowish bro 5/4).  Same as above, yellowish bro 5/6).  Shaley Sandstone, grey (10 Y fine-to fine-grained sand, dry Same as above.  Same as above.  Total Depth: 65.0 F7	own (10 YR R 5/1), very , well-sorted.			

## OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

#### LOG OF BORING 8-MW4

Project No.:

8056-101

Logged By:

Kathryn Pritchett

**Drilling Co.:** 

Driller:

O'Keefe Drilling Mike Downey

Date Drilled:

05/02/96

Sampling Method:

**Rock cuttings from Air Rotary** 

Depth Drilled:

65.0 FT.

Depth To Water:

40.0 FT.

Date Measured:

05/02/96

**Surface Elevation:** 

3674.98 FT.

Drilli	ing Me	thod:	A	ir Rotar	y-Hammer	TOC Elevation:	3674.68 FT.		
)		A.					FIELD S	CREENING	130
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS		PID (ppm)		Monitoring Well
					Asphalt.				
5 -					Sandstone, some silt, very fi fine-grained sand, brownish 6/6), well-sorted.	ne-to yellow (10 YR			
10 -	_				Same as above, moist.				
15 —	_				Same as above.				
20 -					Same as above.				
25 -	-				Same as above.				
30					Sandstone/Siltstone, very fin sand, moist, very pale brown well-sorted.	e-to fine-grained n (10 YR 7/4),			
35 —					Sandstone, some silt, light y (10 YR 6/4), very fine-to fir moist, well-sorted.				

Project: Montana ANG

Town/City: Great Falls

County: Cascade State: Montana

TOC Elev: 3,652.69

Ground Elev.: 3,550.91

Water Level: 44.16 TOC

Total Well Depth: 58.3' BLS

Date Installed: 8 May 1996

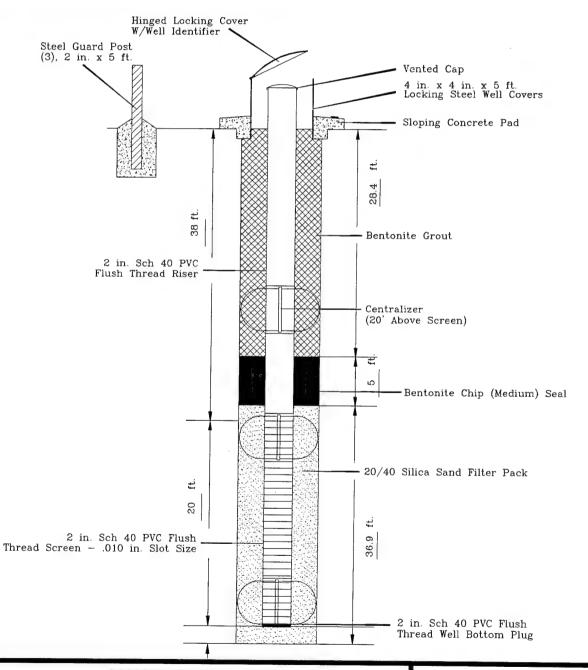
Drilling Contractor: O' Keefe Drilling

Drilling Method: Air Rotary

Borehole Diameter: 6"

Development Technique: Bailer

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 1-MW2

OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

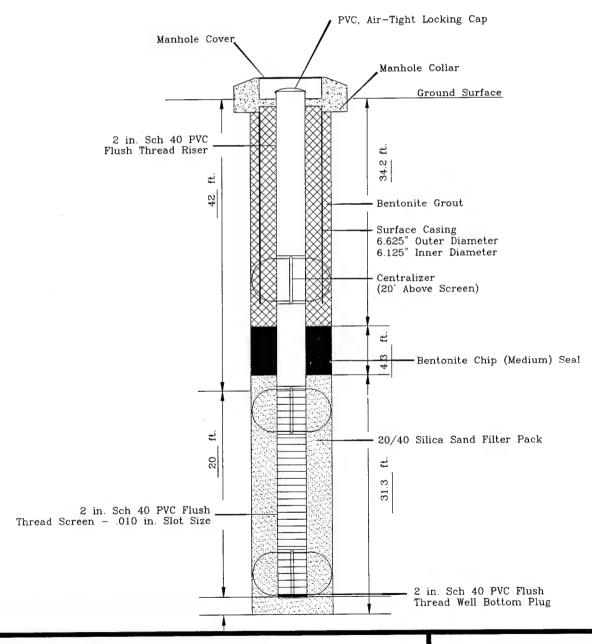
AUGUST 1996

G-FALLS\MONLOG3

7 May 1996 Date Installed: Montana ANG Project: Drilling Contractor: O' Keefe Drilling Town/City: Great Falls Air Rotary Drilling Method: Cascade State: <u>Montana</u> County: Borehole Diameter: 6" 3,676.21 TOC Elev: Development Technique: Bailer Ground Elev.: 3,676.53 \_\_\_\_54.86 \_\_\_\_\_ TOC Water Level:

Total Well Depth: 62.3' BLS

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW2



JUNE 1996

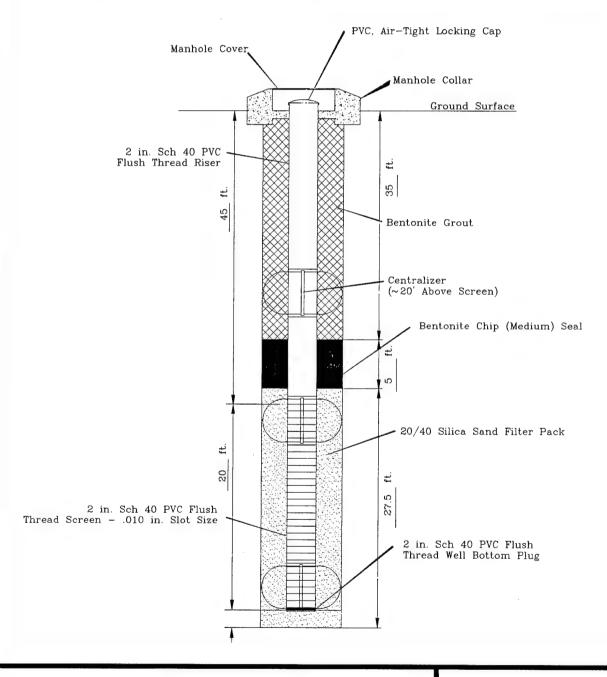
 $G\text{-}\text{FALLS}\backslash \texttt{MONLOG2}$ 

Project: Montana ANG Town/City: \_\_\_\_ Great Falls <u>Cascade</u> State: <u>Montana</u> County: TOC Elev: 3,667.82 Pavement Elev.: 3,667.31 Water Level:

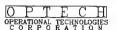
\_\_\_\_\_ TOC 50.12 Total Well Depth: 65.3' BLS

Date Installed: 8 May 1996 Drilling Contractor: O' Keefe Drilling Drilling Method: Air Rotary Borehole Diameter: 6" Development Technique: Bailer

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW3



Montana ANG Project: Town/City: Great Falls

Cascade State: Montana County:

3,675.98 TOC Elev:

Ground Elev.: 3,676.29 58.08 TOC

Water Level: Total Well Depth: 62.3' BLS

7 May 1996 Date Installed:

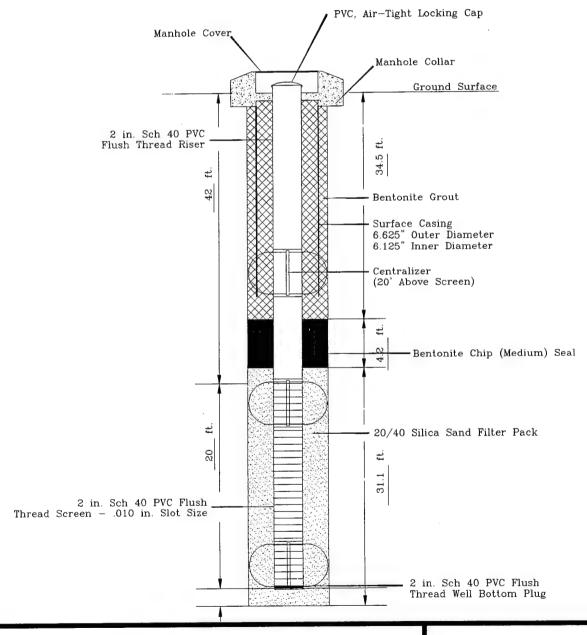
Drilling Contractor: O' Keefe Drilling

Air Rotary Drilling Method:

Borehole Diameter: 6"

Development Technique: Bailer

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW4

JUNE 1996

G-FALLS\MONLOG2

Project: Montana ANG

Town/City: Great Falls

County: Cascade State: Montana

TOC Elev: 3,675.55

Ground Elev.: 3,675.81

Water Level: 54.64 TOC

Total Well Depth: 63.3' BLS

Date Installed: 1 May 1996

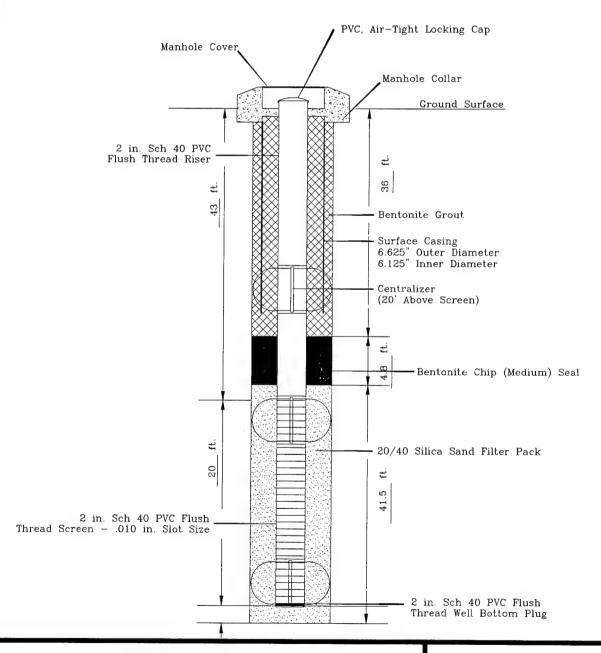
Drilling Contractor: O' Keefe Drilling

Drilling Method: Air Rotary

Borehole Diameter: 6"

Development Technique: Bailer

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW5

OPTECH OPERATIONAL TECHNOLOGIES

JUNE 1996

G-FALLS\MONLOG2

Project: Montana ANG

Town/City: Great Falls

County: Cascade State: Montana

TOC Elev: 3,675.64

Pavement Elev.: 3,675.90

Water Level: 55.28 TOC

Total Well Depth: 64.3 BLS

Date Installed: 8 May 1996

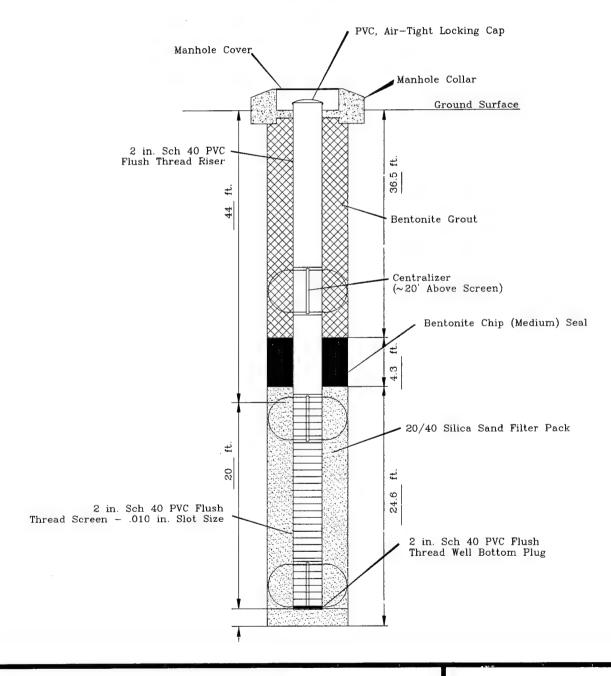
Drilling Contractor: O' Keefe Drilling

Drilling Method: Air Rotary

Borehole Diameter: 6"

Development Technique: Bailer

Not To Scale



MONITORING WELL CONSTRUCTION LOG WELL NO. 8-MW2



Project: Montana ANG

Town/City: Great Falls

County: Cascade State: Montana

TOC Elev: 3,675.86

Ground Elev.: 3,676.16

Water Level: 55.49 TOC

Total Well Depth: 61.3 BLS

Date Installed: 7 May 1996

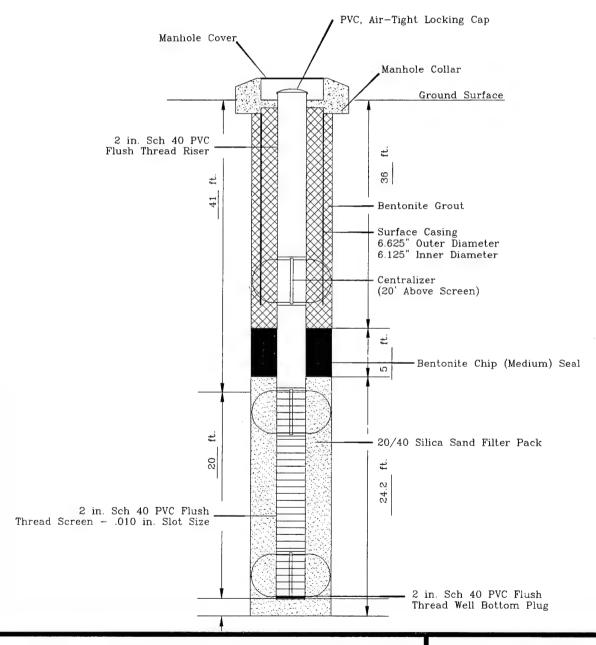
Drilling Contractor: O' Keefe Drilling

Drilling Method: Air Rotary

Borehole Diameter: 6"

Development Technique: \_\_\_\_Bailer

Not To Scale



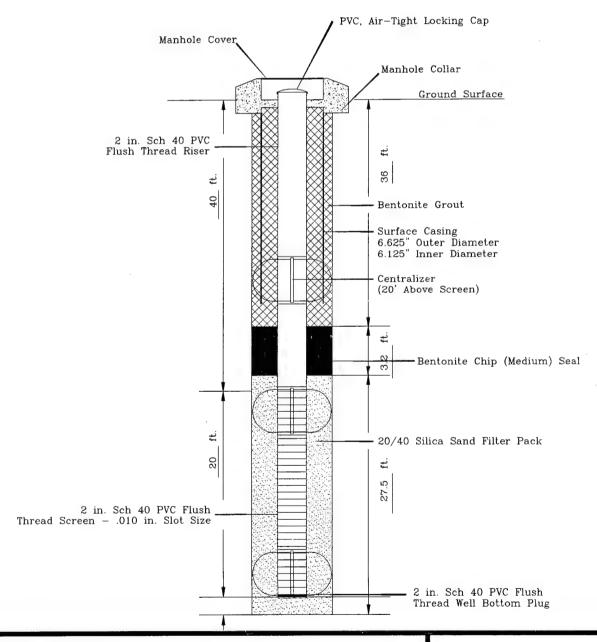
MONITORING WELL CONSTRUCTION LOG WELL NO. 6-MW2

OPTECH OPERATIONAL TECHNOLOGIES

JUNE 1996

G-FALLS\MONLOG2

7 May 1996 Date Installed: Montana ANG Project: Drilling Contractor: O' Keefe Drilling Town/City: Great Falls Air Rotary Drilling Method: County: <u>Cascade</u> State: <u>Montana</u> Borehole Diameter: 6" 3,676.32 TOC Elev: Development Technique: \_ Bailer Ground Elev.: 3,676.60 52.24 TOC Water Level: Not To Scale Total Well Depth: 60.3 BLS



MONITORING WELL CONSTRUCTION LOG WELL NO. 6-MW3



# APPENDIX C MONITORING WELL DEVELOPMENT AND PURGING LOGS

Monitoring Well: /-mw2
Development Start: (Date) 5/11/96 (Time) 1309
Development start. (Date) 3/1/1/2
Development Fnd (1)4(C) ) / // / //
Development 2nd : Developed By: Altheyn Preitcheft and Bill Heabery
PID Reading: (Background) O ppm (Reading) O ppm
Groundwater: (Water Level) 43,0/ btod/bls (Well Depth) 60,37 (btod/bls
Volume of Water in the Well: 1/4 + 1/400
$V_{\text{(gal)}} = [0.0408] \times [\text{Well-Diameter}_{\text{(inches)}}]^2 \times [\text{Height of Water in Well}_{\text{(icct)}}]^2 \times [\text{V}_{\text{(gal)}}]^2 \times [\text{Height of Water in Well}_{\text{(icct)}}]^2 \times [Height of Water in We$
$A = \begin{pmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{pmatrix}$
V = = (7,16) (1,10) (1,10)
Development Method: RAMA Containment: 1/03 7
Average Rate of Removal of Water: 0,5 gal/min. builer on dill rig
Average Rate of Removal of Water: 0,5 gal/min. built on chill rig  Weather: Sunny-partly cloudy 0,2 gul/min built by hand
Comments:

Turbidity

Time	Volume of Water Removed (gallons)	Water Level	Телір (°С)	pН	Conductivity (uS/cm)	Clarity	Remarks
1304		7999	11.6	7.40	1,460	Clardy	
1423	19 gala	7999	12,6	750		S/ 404	14
1450	24 galo	Stopp	ed -	- Cl	int relan	nsi	to bail with 2"x
1455	started	develop	ent a	gain	-		rig,
1517	38 galo	7999	11.7	7,52	1450	clau	ly
15,58	57 galo	7949	11.4	7.56	1,460	Cler	3
1600	Stopped	deve	com	mt			
				-			
				K			
			·	1			

initial

	Monito	ring Well:	6-r	$n\omega$	3						
	Develo	pment Start: (Dat	(e) $5/c$	7/46	,	(Time)	1515				
		pment End : (Da			000	(Time)					
•	Develo	ped By : Oker	e Brillia	5	Clim	helson					
<b>?</b>	PID Reading: (Background) O. J. ppm (Reading) S. L. ppm  Groundwater: (Water Level) 53,06 btoc/bls (Well Depth) 60,36 btoc/bls										
•	Ground	lwater: (Water L	evel) 53,06	btoc/bl	S	(Well Dept					
		e of Water in the						19 196			
	-	V <sub>(gal)</sub> = [0.0408] ;	· [Well Dia	meter <sub>(inc.</sub>	hes)] <sup>2</sup> X	Height of Y	Vater in	Well <sub>(feel)</sub> ]			
	•	V <sub>(gal)</sub> = V dev, =	- (1,460)	well	10.4	مد ل (	<i>(</i>	Bge (#) (Huell)			
		$V_{(gal)} \times 3 =$		راران		y week ?	[0.143	sge 197 (Huell)			
	Develo	oment Method:	bouler		Conta	inment : /	100 -	gal plastic			
Hangle	Average	e Rate of Remova	al of Water:		gal/m	in.					
	Weathe	r: (louly ,	onivin	7							
1	Comme	ints:	-> 7	4 00	la	1000	+	Out Al Rosse			
V =	0,3	gaes ~	Tulido	L		HOPPKE	1	let rebuye			
	Time	Volume of Water		Tenip		Conductivity	Clarity	Remarks			
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	,	Removed (gallons)	Water Level D BTOC	(C)	pH	(uS/cm)	stig	Dept own			
mittal	1515		236	10.5	7,34	726	cloud	· Bug			
	21 150	5 4 gab.	Stop			though		1 / 52 24/ 55			
•	3677	<u>!</u> !	3	11.5	7,14		den	W.L. 5274 BTK			
	917	8 yels	561	11,4	7.54	754	Unes	7 - Stypped to			
Start again 1456 1145	1207			5+	ppe	1	race	7			
* 1145	1435	12.5 gre		54	oppes	-to 1	elarg	b			
	1670	14.5 gals		Stop		to rech	enge ilonety				
dart	0745	16.0 gels		13.8	7.61	725	murky	hydraubon odn			
Oto profes neith	0180	Α.	Pho	med	1 :	heres					
Tent	0435	18:5 GH	Monnie	14	when	•					
ptact	10/0	1915 gpl	stoppe	el to			020				
aturt	1110	2010 gal	Hoppe	f to	U	clurge 1	115				

Manitoring Well: 6-mw3				
Monitoring Well: 6-mw3  Development Start: (Date) 5/4/9	6	(Time)		
Development End: (Date)		(Time)		
Developed By:				
	ppm (Re	ading)	ppm	,
·	btoc/bls_	(Well Dept	h)	btoc/bis
Volume of Water in the Well:				•
$V_{(gal)} = [0.0408] \times [Well Diam]$	leter <sub>(inches)</sub> ] <sup>2</sup>	x [Height of V	Vater in	$Well_{(feet)}]$
$V_{(gal)} =$				
$V_{(gal)} \times 3 =$				
Development Method:	Cor	ntainment:		
Average Rate of Removal of Water:	gal	/min.		
Weather:				
Comments:				
turbelity				
Time Volume of Water Water Level	Тепір	Conductivity	Clarity	Remarks

otent

		money						
Time	Volume of Water Removed (galions)	Water Level R BTOC	Телір (°С)	рН	Conductivity (uS/cm)	Clarity	1	Remarks
1530	2.5gal	stoppe	d to	rul	wige 1545	<u> </u>		<-/r>
1/2/5	22,5 Min194	478		7,65	712	down	ptop	1625/11/90
		·			•			
	-		4	111				
				5				
				<u> </u>		<u> </u>	L	

	Monitoring Well: 6-mwz
	Development Start: (Date) 5/9/96 (Time) 1/00
	Development End: (Date) (Time)
	Developed By: O'Keefo Drilling - Clint Kelow
-:	PID Reading: (Background) O ppm (Reading) 8,9 ppm
	Groundwater: (Water Level) 56.49 btoc/bls (Well Depth) 6/, 27 btoc/bls
	$ \begin{array}{lll} & V_{\text{(gal)}} = [0.0408] \times [\text{Well Diameter}_{\text{(inches)}}]^2 \times [\text{Height of Water in Well}_{\text{(feet)}}] \\ & V_{\text{(gal)}} = V_{\text{dw}} = V_{\text{BH}} + V_{\text{well}} & V_{\text{well}}(0.143  \text{gal   ft}) \text{ (by Sell)} \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (1.46.8  \text{gal   ft}) & (0.4) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{BH}} & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{(gal)}} \times 3 & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 = V_{\text{(gal)}} \times 3 & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) & (0.48.8  \text{gal   ft}) \\ & V_{\text{(gal)}} \times 3 & (0.48.8  \text{gal   ft}) & (0.48.8  gal   ft$
	Average Rate of Removal of Water: gal/min.
÷	Weather:
:	Comments: V= 4,2 gabs X > 12.5 gabs  Turbity  Turbity  Turbity
	Time Volume of Water Water Level Temp Conductivity Clarity Remarks
	Removed (gallons) - ABTOC (C) pH (uS/cm)
Initial	1/13 8/2 10.0 1.65 151
Ó	1125 25 Stopped to redays
•	1152 Started Development
	1202 3gel > 1000 8,9 7,91 8/00 cloudy
	Stopped clevelyment to receive
*	1315 Stolled - remark ~ 0,5 gets
	1330 Stopped to reclarge
Started 1545	1549 4 gals 7999 9,0 7.70 830 cloudy Stopped to rechan
5/10/94	147 initial for 419 115 7,87 834 sightly-clear
144	756 ( gels - 5 + upped to recluse
- Start	1438 8,5 gals 7999 11,5 7,91 890 clouds
1419	0816 10.5 gds 10.6 7.45 836 Bould histographen
<i>J.</i>	stopped 18th for recharge

part part

Time	Volume of Water Removed (gallons)	Water Level n BTOC	Temp	рН	Conductivity (uS/cm)	Clarity	Remarks
311146	11.5 pol	otome	1 12	re	change	0955	
1025	12.5gal .		11.0	7.60	845	Cloudy	
1100	13,5 GH		11.5	7.64	857	Cloudy	
					-	0	
			·				

Monito	oring Well:	7-m	WZ	·				
	pment Start: (Da	ite) 5/	a 190	0	(Time)	850		
	pment End : (Da	/	9/91	6	(1::::-)	1040		
	ped By :	Keels	Drie	ling -	- Ulint	nelso	n	
	eading : (Backgro	ound) O	ppm	(Readi	ing) 3.			
	iwater : (Water L		5btoc/bl	s	(Well Dept	(h) 62.4	48 btoc/bls	
	e of Water in the						N 5/9/4	16
Dla	$V_{(gal)} = [0.0408]$ $V_{(gal)} = V_{(gal)}$ $V_{(gal)} \times 3 = $ pment Method :	x [Well Dia ur. = VBH = (1.468 g	meter (inc + Vwe pel Ift) Star	hes) / x    (0.4)  nless	Height of V V well ( - Steel	Vater in 0.1632 Buil	Well(feet)    SH/Pt ) ( H  Par 2	- well) (X5
Develo	Pata of Pamou	D Water		gal/mi	in I,	00	gan	fank
Tiveras	C Itale of Itellio	(light			11.			
Weather Comme		transing to d	bail	n h	. skan	Mea	n	
Commic	Sitts .	Turked	2 (NT	w)	7		•	
Time	Volume of Water Removed (gallons)	Water Level	Tenip (°C)	pН	Conductivity (uS/cm)	Clarity	Ren	narks
905		5999	9.5	7,80	800	cloudy		
925	11.0.	1202.	10,5	695	21-	Clary	ena	in tuledy
958	22.0	7499	11.0	6.97	0/	Clarky		
1035	33.0	580	10,8	7.01		Slight	k	
1040/	- 3510	Sty	ped	Der	elopnes	<del>*</del>	0	
					0			
				/				
				X				
						i 7	1	
			·					

Antisl

. .

Monito	ring Well:	7-mw					
	pment Start: (Dat	e) 5//	1/96		(Time) X	30_	
Develo	oment End: (Da	te)			(Time)	2.11	Ils Alexander
Develo	ped By:	athryn					Hedberg
PID Re	ading : (Backgro	und) . 0	FF	(Readi		ppm	
Ground	water: (Water L	evel) 50,5/	(btoc)jols	3	(Well Dept	h)@***	(btoc)bls
Volume	of Water in the	Welly					
	$V_{(gal)} = [0.0408]$		neter <sub>(int</sub>	,,,] <sup>2</sup> x [	Height of V خن ۱۷۱۶	Vater in Uû ) ()	7.4) (17.99 pt) = 10.69
	$V_{(gal)} = 13$ $V_{(gal)} \times 3 = 34$	ala		<i>'</i> '	- (1.16	3 14/0	+1 (N/99 H)= 2.4 K
	$V_{(gal)} \times 3 = 3q$	gala	V	well		1 /00 -	gel platie tank
Develop	oment Method:	Barler		Contai	nment: /	1100	gue plasue tank
	e Rate of Remova			gal/mi	n.		•
	r: Cloudy				Ц		11-10
Comme	ents: alwa	alpha	take	way	17 8 Sa.	51#	U-10 model 06040
			A.		un	in ,	1 110
		Turlide	g			4	06043
Time	Volume of Water	Turkide Water Lord	Temp	рН	Conductivity (uS/cm)	Clarity	Remarks
Time	Volume of Water Removed (gallons)	Water Level PATOC 7999		рН 7,3с	Conductivity (uS/cm)		Remarks
830		Water Level	Temp (°C)		Conductivity (uS/cm)	Clarity	Remarks
830 945	Removed (gallons)	Water Lord 9 BTOC 7 999	Temp (°C)	7,30	Conductivity (uS/cm)	Clarity Cloud Cloud	Remarks
830		Water Lord 9 BTOC 7 999	Temp (C) (9, 7)	7,30	Conductivity (uS/cm)  72/ 862  779	Clarity Cloud Cloud	Remarks  Y  Ly  ly - slightly cloudy
830 945 [055	13 gsle 24 gsls Stop	Water Lord 9 BTOC 7 999	Temp (C) 9.7 9.4 10.5	7,30 7,17 7,76	Conductivity (uS/cm)  72/ 862  779	Clarity  Cloud  Cloud  Cloud  Cloud  Cloud  Cloud  Cloud  Cond	Remarks  Ly  Ly  Ly - slighty cloudy
830 945	13 gsle 24 gsls Stop	Water Lord 1/200 7999 7999 7999	Temp (CO) 9.7 9.4 10.5 12.2	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (uS/cm) 72/ 862 779 - 741 pt 741	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c
830 945 [055 [255	Removed (gallons)	Water Land 1870C 7999 7999 7999 2999 7999	Tenip (C) 9.7 9.4 10.5 12.2 11.7	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (uS/cm) 72/ 862 779 - 741 pt 741	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c
830 945 [055 [255	13 gsle 24 gsls Stop	Water Lord 1870C 7999 7999 7999 2999	Tenip (C) 9.7 9.4 10.5 12.2 11.7	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (us/cm) 721 862 779 -741 741 743 Let 140	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c
830 945 [055 [255	13 gsle 24 gsls Stop	Water Lord 1870C 7999 7999 7999 2999 7999	Tenip (C) 9.7 9.4 10.5 12.2 11.7	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (us/cm) 721 862 779 -741 741 743 Let 140	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c
830 945 [055 [255	13 gsle 24 gsls Stop	Water Lord 1870C 7999 7999 7999 2999 7999	Tenip (C) 9.7 9.4 10.5 12.2 11.7	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (us/cm) 721 862 779 -741 741 743 Let 140	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c
830 945 [055 [255	13 gsle 24 gsls Stop	Water Lord 1870C 7999 7999 7999 2999 7999	Tenip (C) 9.7 9.4 10.5 12.2 11.7	7,30 7,17 7,76 7,51 7,51 7,47	Conductivity (us/cm) 721 862 779 -741 741 743 Let 140	Clarity  cloud  cloud  cloud  cloud  cloud  cloud	Remarks  y  ly  ly - slighty cloudy  c

initral

Start

	Monito	ring Well:	7-mu	15				
		pment Start: (Da	~ [6	196		(Time)	1425	
		pment End : (Da		1		(Time)		
		ped By: Okeef			Cl	ind he	lson	
•		U			(Read	ing) O	ppn	
		ading: (Backgro	WEZ 0	htee/bl		(Well Dent	h) 63,3	b btoc/bls
		lwater: (Water L	evel)5 3,30	/ BLOC/DI	<u> </u>	(VVCh Dept	1 .00 -	TDOH 82.3 BLS
		e of Water in the	Well: V	B# = /	6,87	gasa V	1.69	TDOH 82.3 BLS  LIS AL JU/96  Well(Geet)
	•	V <sub>(gal)</sub> = [0.0408] :	x [Well Dia	meter (incl	nes) Z	Height of	<del>Vater in</del>	W CH (feet)
		$V_{(gal)} = V_{(gal)} V_{(gal)} \times 3 = V_{($	= VBH + \	well	\ (~ .	(VHay)		\( \0.
		(231)		gac) In	ייעו (	DC NBAY	well =	(0.163 gol) (4) (Hwell)
	Develo	pment Method :	Bailer		Contai	nment :	1,100	-gel plastic
		e Rate of Remova			gal/m	in.		Jank
÷	Weathe	r: Cloudy ,	ontwing					
;	Comme	ents:	V2 -	<del>-}</del> ·	55	gala	Vive	UKP .
V	= 18	3,5 gabs	Tuch	dity	, ,	stomed	to M	lux 1570570/96n
•		<u> </u>	· H	2		70		
+4	Time	Volume of Water Removed (gallons)	Water Level R BTOC	Тепір (°С)	pН	Conductivity (uS/cm)	Clarity	Remarks
Instial	1425		776	10,9	7,57	642	"my	digital - lon
~	1445	4 416	- 5to		to re	dus		
Strated =	1604	O SHELLS			to a	echage		
1525	1646	8,5 gas						
Started 1445		11	534	11.9	7,77	773	Stylly	-100 W.L. 55.18
13/46	802	10 5 - 18				1 644.0	Willey	8700
· · · · · · · ·	3.5	11 gals	- Stop	10		-66	Clew	
Started 1500	1511		40	13.1	771	798		
	154	12 guls	- >4	ppea	-70	recla		
<u>}</u>	1647	13 gal	- Stop	ed -	400	echigo		
	1714	13 que	(J	13.9/1	25	980	les	7
•		Stopp	red de	velip	7153	> u	ear	
		7.0	/	MO				

110/46

Monito	ring Well:	7-m	wy				
	pment Start: (Dat	e) 5/9	7/94	•	(Time)	1450	)
	pment End: (Dat	~ 1	6/94		(Time)	756	
	ped By : O Keef		ine		int hel		
	ading : (Backgro		ppm	(Readi	ng) 3,8	ppm	24
Ground	lwater: (Water L	evel) 5 <b>8, 3</b> 8	btoc/bls	3	(Well Dept	h)62;	btoc/bis
Volume	of Water in the	Well:					Jolan
•	V <sub>(gal)</sub> - [0:0408] >	(Well Dia	neter (inch	] <sup>2</sup> x [	Height of V	Vater in	Well(feet) Vweel =
	$V_{(ral)} = V dw$	= VBH +	Vivell	Va	() V	H= =	7,3 galo galo
•	$V_{(cal)} \times 3 = V_{\beta}$	H = (1,408	gal/ft	XO,	4) Vwee	l [0 , 16_	7,3 gel (H) (Hwell)
	pment Method :			Contai	nment : /	100-	gal plate
				1/			7 020
Weathe	r: Cloudy	, show (	light)	-3	mny m	apte	nua on 5/18/86
Comme	ents: 8,0 gel	so pur u	lume	th	al of	148a	noa on 5/10/96 Olerno es 5/9/96 µ
		•		_	//		
	Just det	Tudada	1	MA	ped to	veluv,	e 5/9/96 p
Time	Volume of Water	Water Love	Temp		Conductivity (uS/cm)	Clarity	Remarks
Time	for larg	Turbon	-	рН 7,35	Conductivity		
	Volume of Water	Water Love	Temp	рН	Conductivity	Clarity Cloudy Sugar	Remarks
Time	Volume of Water	Water Love	Temp	рН	Conductivity (uS/cm)	Clarity Cloudy Sugar	Remarks
Time	Volume of Water	Water Lovel BRIOC  7999	Tenip (C) 9,9 topped	7,35 L +0	Conductivity (us/cm) (us/cm) (us/cm) (us/cm) (us/cm)	Clarity Closely Blight	Remarks
Time	Volume of Water Removed (gallons)  > 579 ff -  3 gals  8 gals	Water Lovel BRIOC  7999	Temp (C) 9,9 toppes 9,6 10.9	7,35 L +2 7,34	Conductivity (uS/cm) (uS/cm) (uS/cm) (uS/cm) (uS/cm) (uS/cm) (uS/cm) (uS/cm)	Clarity Cloudy Olight Le Clary	Remarks
7453 1500 1642 815 833	Volume of Water Removed (gallons)  3 gads  8 gads  11  10 gals	Vater Lord 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Temp (C) 9,9 toppes 9,6 10.9	7.35 L ti 7.34 7.11	Conductivity (us/cm)  638  Norther  873  726	Clarity Cloudy Olight Le Clary	Remarks
7453 1500 1642 815 233	Volume of Water Removed (gallons)  > 579 ff -  3 gals  8 gals	Water Lovel  PHTOC  7999	Temp (C) 9,9 toppes 9,6 10.9	7,35 L to 7,34 7,12 to	Conductivity (us/cm)  638  Norther  873  726	Clarity Cloudy Olight Le Clary	Remarks  oder  y Shoppad to  reiting  W.L. 56,5' BTX. 1
1453 1500 1642 815 835 1204 1215 1515	Volume of Water Removed (gallons)  > 599 ff  3 gala  8 gala  10 gala  13 gala  10 gala	Water Lovel  18170C  7949	Temp CO 9.9 topped 9.6 10.9 pped	7.35 L ti 7.34 7.11	Conductivity (us/cm)  638  873  726  sunge	Clarity Cloudy Sheple Clary Clary Clary	Remarks  oder  y Shoppad to  reiting  W.L. 56,5' BTX. 1
Time  1453  1500  1442  815  1204  1215  1515  1644	Volume of Water Removed (gallons)  > 599 ff  3 gala  8 gala  10 gala  13 gala  10 gala	Water Lovel  PHTOC  7999	Temp CO 9.9 topped 9.6 10.9 pped	7,35 L to 7,34 7,12 to	Conductivity (us/cm)  638  873  726  sunge	Clarity Cloudy Sheple Clary Clary Clary	Remarks  oder  y Shoppad to  reiting  W.L. 56,5' BTX. 1
1453 1500 1642 815 835 1204 1215 1515	Volume of Water Removed (gallons)  > 599 ff  3 gala  8 gala  10 gala  13 gala  10 gala	Water Lovel  PHTOC  7999	Temp CO 9.9 topped 9.6 10.9 pped	7,35 L to 7,34 7,12 to	Conductivity (us/cm)  638  873  726  sunge	Clarity Cloudy Sheple Clary Clary Clary	Remarks  oder  y Shopped to reiting W.L. 56,5' BTX. 1  the Claudy - ~ - Shopped to reiting
Time  1453  1500  1442  815  1204  1215  1515  1644	Volume of Water Removed (gallons)  > 599 ff  3 gala  8 gala  10 gala  13 gala  10 gala	Vater Lord  PATOC  7999	Temp CO 9.9 topped 9.6 10.9 pped	7,35 L to 7,34 7,12 to	Conductivity (us/cm)  638  873  726  sunge	Clarity Cloudy Sheple Clary Clary Clary	Remarks  oder  y Shopped to reiting W.L. 56,5' BTX. 1  the Claudy - ~ - Shopped to reiting

Monito		5- mu				0	
Develo	pment Start: (Da	te) $5/10/4$	i 6		(Time)	940	
	pment End: (Da	/	/		(Time)	1220	
		Korke	Dril	ling	- Cl	int	relson
	ading : (Backgro	und) 0,4	$\mathcal{L}_{ extsf{ppm}}$	(Read	ing) //	у ррп	1
	water : (Water L			s	(Well Dept	th) 64,3	Hotod/bis
	of Water in the						-
	$V_{(gal)} = [0.0408]$		meter	1 <sup>2</sup> X	Height of \	<del>Vater in</del>	Well
		_	,	, ,	1/		4
	$\mathbf{V}_{(gal)} = \int b_1  \mathcal{A}$		-	Vall	= 11.46	4) (o	4) (14.96 7=8.7
	$\mathbf{V}_{(gal)} \times 3 = 32.$	1 .	Vue	11 = (1	163) (12, 937) nment H	1 = 21	unt HBH
Develop	oment Method:	buter			web.	1,100-	The photic
Average	Rate of Remov	al of Water	0,3	gal/m	n.		Tare
Weather	r: Clindy	Tes	g 30	6			· · · · · · · · · · · · · · · · · · ·
Comme	nts: good	mul	- rec	Onm	end for	- shug	, text
		Turbility			· ·		
Time	Volume of Water Removed (gallons)	Weter Level	Tenip (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
940		7797	12.2	7.35	893	aousty	
1025	11 galo	7949	11,5	7.56	945	cloudy	
1.09	22 gals	7999	10.7	7.52	935	cloud	~
	2624 1048	- Stop			iedange		
1/40	26,5	- 0	gar.	70 /			to mento
1220			117	150	940	0004	, congr
120	33 gils	<1.0	11.7	7,14	,940 velopno	des	
11 1		Stop	ped	de	velopno	M.	
}							
			A		)		
			*	2			

	Monitor	ing well. O	1110	Y				
		ring Well: 8- oment Start: (Dat		1 4 1	_	(Time) /	215	
				0/96		(Time)	732	
		oment End : (Da	K 10	Dril	1			relson
		bed By: U	rufe					
		<u>ading : (Васкего</u>			(Readi		ppm	
	Ground	water: (Water L	evel) 47.02	(btoc/pls	3	(Well Dept	h) 40,	1 (btoglots
	Volume	of Water in the	Well: V	5 H J	Vwel	2 400	weel (	1.163 gelft) (13.32'
	,	$V_{\text{call}} = [0.0408]$	x Well Dia	meter (inch	1 X (	Height of V	Vater in	Well ((cet) (17.6)
		$V = I_0 \mathcal{L}$	طله					. •
		$V_{(gal)} = l_0. \mathcal{E}$ $V_{(gal)} \times 3 = 32$	13 w/s					
		V <sub>(gal)</sub> X3 = 70	20.100	(2")	Contai	nment :	1100	- yel platie
	Develop	oment Method :	Dutter				4100	Tank
	Average	Rate of Remov	al of Water:		gal/mi	n.		
	Weather	r: Cloudy	1302					
	Comme	nts:	·					
			Turbi	dety				
	Time	Volume of Water Removed (gallons)	Water Level	Temp	рН	Conductivity (uS/cm)	Clarity	Remarks
	1215	Kemoveu (Empora)	115	1/4	7.18	785	(Pr	<u>U</u>
			713				care	19
	1220	N2.	1 -	Stone	on to	reclarge	day	9
L.4	123-13	#7 7 gs	10 - 7499	Styre	201	reduge	day	y - Strand to.
fut	133013	53 11 ga	6 7999	12.1	7,62	834	dans	y y - Shopped to
- :		16.50	67999 6 -	12.1 Stup	7.62 ped	834 to reche	ze	by - Stypped to
tent 21		16.50	67999 6 -	12.1 Stup	7,62	834 to reche 864	ze Cla	
	1330/3	16.50	60 - 62 7999 62 - 62 7999 7999	12.1 5 typ 11.5	7.62 ped	834 to reche 864	ze Cla	by - Shipped to de sout and south
- :	133° <sup>13</sup> - 1635	16.50	67999 6 - 7999 7999	12.1 5 top 11.5 11.3	7,62 ped 7,54 7,52	834 to reche 864	ze Cla	
	133° <sup>13</sup> - 1635	16.50	67999 6 -	12.1 5 top 11.5 11.3	7,62 ped 7,54 7,52	834 to reche 864 857	ze Cla	
	133° <sup>13</sup> - 1635	16.50	67999 6 - 7999 7999	12.1 5 top 11.5 11.3	7,62 ped 7,54 7,52	834 to reche 864 857	ze Cla	
	133° <sup>13</sup> - 1635	16.50	67999 6 - 7999 7999	12.1 5 top 11.5 11.3	7,62 ped 7,54 7,52	834 to reche 864 857	ze Cla	
- :	133° <sup>13</sup> - 1635	16.50	67999 6 - 7999 7999	12.1 5 top 11.5 11.3	7,62 ped 7,54 7,52	834 to reche 864 857	ze Cla	

initial

	Monito	ring Well:	9- Mu	13				
		pment Start: (Dat	/	146		(Time)		
			•	1		(Time)		
·		pment End : (Da	1// 2	Di	line	1.5	+ re	Poor.
		ped By: U	Keep			ing) 5,9		
*		ading: (Backgro		ppm				
	Ground	lwater: (Water L	evel) 47,0	Abtoc/bl	s	(Well Dept	1 1 / L	(btoc)bls
-	Volume	e of Water in the $V_{BH} + V_{AB}$	Well:	VAH	= (	1.468 64	100	9.44 A)
		$V_{(gal)} = \{0.0408\}$	x [Well Dia	meter <sub>(incl</sub>	nes) X	Height of V	Vater In	Wek (feet)
		$V_{(gal)} = // \leq \lambda$	ala			qu	P	
		$V_{(gal)} = 1.5$ $V_{(gal)} \times 3 = 34$	T gels					
		pment Method:			Contai	inment :	100-	gal plante
		e Rate of Remova			gal/m			
÷	Weathe	Λ.		6.		t n-h	WW	ind
	Comme	8	1	7				
1	Comme	iits .						
				-				
			Turvid	ty				
-::	Time	Volume of Water Removed (gallons)	Vater Level	Tenip (°C)	рН	Conductivity (uS/cm)	Clarity	Remarks
mitial	Time	Volume of Water Removed (gallons)	Water Level artifoc	Тепір	рн 7,22		Clarity	
mitial			Water Level ANTOC 730	Temp (°C)	7,22	(uS/cm)		
mitial start		Removed (gallons)	Water Level ANTOC 736	Tenip (C) //,0	7,22			<u>y</u>
mitial ) tent ) tent ) tent		Removed (gallons)	Water Level AMTOC  738  — 54  — 540pa	Tenip (CS) //,0 opped	7,22	(us/cm) 871 echange		<u>y</u>
mitial ) tent Hop 13	33   52   345  345  545	Removed (gallons)  5 gals  6 yals  -street 7 g  -street 7 g	Water Level ANTOC  738  - 54  - 5tope  Level	Tenip (CS) //,0 opped	7,22	(us/em) 871 echangl echange	dau	daroy
) tant Hop 13	33   52   345  345  545	Removed (gallons)  5 gals  6 yals  -stores 7 g  7.5 gals	Water Level AMTOC  738  — 54  — 540pa	Temp (C)    .0  opped  pea  claye  to A	7,22 to re	(us/em) 871 echange echange	dan	dardy
mitial  tent  Hop 13		Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal	Water Level 248TOC  738  - 54  - 540pper  - 540pper	Temp CO   11.0 opped pea Large to 10.8	7,22 to 16 16 16 16 16 16 16 16 16 16 16 16 16	(us/em) 871 echangl echange	dau	dardy
) tant Hop 13	1345 1345 1345 1525 1644- 1657 511146 050	Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal	Water Level 248TOC  738  - 54  - 540pper  - 540pper  To relle	Temp CO   1.0 opped pea - to 10.8	7,22 to re to re ecta 7,41	(us/em) 871 echange echange echange 722	dan	dardy
Hap 13	1345 1345 1345 1525 1644- 1651 31114 030	Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal  Otapal  Start ak 11.0 gals	Water Level 24BTOC  736  - 57  - 5 topp  Laborator No.  - 5 topped  To rella  Stopped  To rella	Temp CO   1.0 opped pea - to 10.8 use to	7,22 to re ecta 7,41 0415	(us/em) 871 echange echange 722 hurep	dan	dardy
) tant Hop 13	133 152 1345 1525 1644- 1651 511144 050	Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal	Water Level 248TOC  738  - 57  - 5 topped  - 5 topped  - 5 topped  To rella  Stry  849	Temp CO   11.0 opped pea - to 10.8 use to 10.8	7,22 to re to re ecta 7,41	(us/em) 871 echange echange 722 hurer 674	claid	dardy
Hap 13	1345 1345 1345 1525 1644- 1651 31114 030	Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal  Otapal  Start ak 11.0 gals	Water Level 248TOC  738  - 57  - 5 topp  Laborator No.  - 5 topped   Temp CO   11.0 opped pea - to 10.8 use to 10.8	7,22 to no ecto 7,4/ 0415 nec	lusem 871 echange echange echange 722 hurep 674 ange - 6	claid	dardy	
Hart Stop 13	133 152 1345 1525 1644- 1651 511144 050	Removed (gallons)  5 gals  6 yals  -street 7 gals  7.5 gals  9.5 gal  Otoppel  Start at 1/10 gal  11.5 gal	Water Level 248TOC  738  - 57  - 5 topped  - 5 topped  - 5 topped  To rella  Stry  849	Temp CO   11.0 opped pea - to 10.8 use to 10.8	7,22 to no ecto 7,4/ 0415 nec	lustem) 871 echange echange 722 hurep 676 ange - 6	claid	dardy

I gala readings

MANG- Great Falls 1-mw2
Installation:  ANG Well No. 1-MW 2  Client/Project: HAQWRAP/ Great Fallsite:  Client/Project: HAQWRAP/ Great Fallsite:
Client/Project: HAZWRAP/ Great Falls Site:
Sampled By Kutheyn Paithett Mec . Sample No. 1 120 P
Sample Start: (Date) 5/16/94(Time) 445 Sample End: (Date) 5/16/94(Time) / 0/4
Background PID Reading: Oppm PID Reading: Oppm
Depth to Water (BTOC): 44.90
Screen Interval: 40 - 60' BLS
Sampling method: Dailer 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- new disposable bailor
- New our passe - gare
Weather: aloney, 506
Lab Analyses:
(including preservatives and filtering if applicable)
(including preservatives and filtering if applicable)  VOCS (CLP) (4) 45-ml VOA HCL  SUUCS (CLP) (2) 1-l ambor
SUNCE ((LP) (1) 1-l ambon
TPH (8015) GRO a) 40-me WOA He
(F) (COOL) (SKO (L) 40-12
QA/QC Samples: metch (CLP) (1) 1-l amber - luch unfittared
- 1-mw2-6wh
Comments:
(including depth of pump if used for sampling)
(morading depart of paint it appears comments)

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
10/8	10,0	7.44	1,550	122	Clean
		L			
		74			

	Installation: MANG - Great Falls ANG Well No. 1-mw1
	2100001001010
	Client/Project: HA ZWRAP/ Great Falls Site:
	Sampled By: Kotheyn Pritchett me Chara Sample No:  - mw (-Gw) Sample Start: (Date) \$16/96 (Time) 1045/Sample End: (Date) (Time)
	Background PID Reading: Oppm 'PID Reading: Oppm '
	Depth to Water (BTOC): 56,62' BTOC 5/16/96 (1830) 56.91' BTOC
	Screen Interval: 5/12/96
	Sampling method: Bailer 2" (658)
	Sampling Equipment:
	Sampling Equipment Decontamination method:
	- New diaposable bailor
	Weather:
	cloudy, 50's
	I ah Anglysser
	Lab Analyses: (including preservatives and filtering if applicable)
	(including preservatives and filtering if applicable)  VUL3 ((LP) (4) 40 - ML VUA (KLL)
	SVOCS (CLP) (2) 1-l amber
	TPH (8015) GRO a) 40-me NOA HCC
	QA/QC Samples: metalo (CLP) (1) 1-l amber Unfiltered and fittered (0.45 pm)
+2+2+	Metale (CLP) (1) 1-le foly HNO3 - level
	Confettered and fettered (0.45 pm)
	Comments:
	(including depth of pump if used for sampling)
:	(including depth of pump if used for sampling)  5/16/96 1830 - Collected VOC5 (CLP) and TPH (8015) GRO.  also att collected a 1/4-L TPH (8015) DRO.  Bailed dry. W.L. 56,62 growTD: 57.75 BTOC
	also All collected ~ 1/4- L TPH (VOIS) DICES
***	
	5/17/4 658 - Collected an additional 14-l TPH (8615) DRS.
	Time Temperature pH Conductivity Clarity/ Remarks  (uS/cm) Turbidity  (uS/cm) Turbidity
: ,	(oC) (uS/cm) Turbidity dy,
-5	W.L
e, di unit	56.91"
	BTOC
	6/30
-	$\leq$ ).

Installation: MANG - Great Well No. 6-MW/
Installation: 74 / Action (A
Chent/Project: The law 1
Sampled By A theun Palyther I more Charles de Rumpie
Background PID Reading: Oppm PID Reading: Oppm PID Reading:
Depth to Water (BTOC): 47.79
Screen Interval:
Sampling method: Buler 24
Sampling Equipment:
- new disposable to disposable bailer
Weather: Clarky, 505, N-NW winds, lo mph
Lab Analyses:
(including preservatives and filtering if applicable)
(Michaling preservatives and implications) 40 or onl VOA vial Hell SVOCS (CLP) (2) 1-l amber TPH (805) TP GRO (2) 40-ml toward Hell metals (CLP) (1) DRO (1) 1-l amber QA/QC Samples:  QA/QC Samples:  (M. unfittered (0.45 pm) and unfittered (0.45 pm) and unfittered
(1)(6) ((1)) (2) 1 1 6 14
TOU (CNE) TO COO (a) 10 to 1 to 10 10
THE COURS IN GRO (2) YOUR VOA vial HE
OA/OC Samples:
(0.45 run)
and unfittered
•

Comments:

(including depth of pump if used for sampling)

Poor producer /

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
853	14,8	7.53	762	244	slightly clarky
	-		$\bigcirc$		
		A			

Installation	MANG	_ 6n	est Fill	ell No.	6-mw2	
Client/Proje	ct: HAZWRA	10/6	ext Full Si	te: 6		
	Katheyn PRis				6-m4-6w1	
	: (Date) 5/13/				(Date) 5/13/96(Time) 1549	
	PID Reading:			D Reading:	D DOm	
	ter (BTOC):		4	——————————————————————————————————————	- FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	
Screen Inter			BLS			
Sampling me		Bailor				
Sampling Eq		V				
		ntamina	tion method:			
Sampling Equipment Decontamination method:  - New disposable bailer						
Weather:	Cloudy, 5		·			
Lab Analyses	:					
	eservatives and s (CLP) s (CLP) l				VOA vide	
met QA/QC Samp	He (CCP)  les:	(I) (-	(1) 1-l a il poly H.	mber fil	Pered and implittered)  O.45 pen filter	
Comments: (including dep	oth of pump if	used for	r sampling) VOCs	TPH, a	ine 1/4 SVOCS prom	
- white Collected VOCs, TPH, and 1/4 SVOCs from 1400-1434 - Stopped to rechange well						
1500-153\$ 1525 - Stopped to reduce well						
Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1547	14.9	7.56	818	442	diptly clarky	

Installation: MANG - Great Falls ANG Well No. 6-MW3
Installation:
Client/Project: HAZWRAP Great Fulla Psite: 6 Sampled By: Sample No: 6-my3-Gw1
Sampled By:
Sample Start: (Date) 5/14/94 (Time) 10/5. Sample End: (Date) 5/14/96 (Time) 1/05
Background PID Reading: Oppm PID Reading: 10,4 pgm
Depth to Water (BTOC):
Screen Interval: 40-60' BLS
Sampling method: Bailer, 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- New disposable barler
Weather:  Lab Analyses: (including preservatives and filtering if applicable)  VOA VILLO HCC  VOCS (CLP) - (Y) 40 ml VOA VILLO HCC  SVOCS (CLP) - (2) 1 - Lamber  TPH (8615) GRO 2) 40 ml VOA villo HCC  TPH (8615) GRO 2) 40 ml VOA villo HCC  QA/QC Samples: Matab (CLP) (1) 1-L foly HNO3 > exch infiltered  (0.45 pcm)

Comments:

(including depth of pump if used for sampling)

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1/11	14.5	7.98	761	41	slightly cloudy-class
/		11/	)		
		1	7		

Installation: MANG Well No. 7 mw <sup>2</sup>
Client Project: HAZIA IPAN LONG TOWN Site. +
Sampled By Villan Pritiet Ince 1 - Sample No: + MWZ- GWI
Sample Start: (Date) 5/12/46 (Time) 1500 Sample End: (Date) 5/12/94 (Time) /5 50
Background PID Reading: 0 pom PID Reading: 5,2 pgm
Depth to Water (BTOC): 55,37
Screen Interval: 42-62' BLS
Sampling method: bailar - 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- new disposable barter
Weather: Putty dardy, Temp 500, high winds
Lab Analyses:
(including preservatives and filtering if applicable)  VOC5 (CLP) HCl - (4) 40-ml VOA vido  5VOC5 (CLP) - (2) (-l amber  TPH (8015) 6R0 - HCl - (2) 40-ml VOA vide DRO - (1) 1-l amber  Metals (CLP) HNO3 filtered and norfeltered (0.45 fm filtered  QA/QC Samples: - (1) 1-l poly each

Comments:

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1505	14.6	7.69	230	77	Clean
		1			
		A/			

Installation: MANG - Great Falls Well No. 7-MW3
Installation: How we have site:
Sampled By: Kettern Pathott me Charles ample No: 7-M43-GWZ  Sampled By: Kettern Pathott me Charles ample No: 7-M43-GWZ  Sampled By: Kettern Pathott me Charles ample No: 7-M43-GWZ
Sample Start: (Date) 5/15/96 (Time) / 645. Sample End: (Date) 5/15/94(Time) // 20
Dampie Jii A A A
Depth to Water (BTOC): 50. 61
Screen Interval: 45 - 65' BLS
Sampling method: Bailer ?
Sampling Equipment:
Sampling Equipment Decontamination method:
- New disposable bailer
Weather: Clardy, 50%
Lab Analyses: (including preservatives and filtering if applicable)  VOLs (CLP) (H) 40-ml VOA HCO  SVOCS (CLP) (2) 1-l amber  TPH (8015), (2) 40-ml VOA HCO
QA/QC Samples: GRO
T-MW3-GWZA  DRO 1-L amber  Metals (CLP) (1) 1-L Poly HNO3  -each infiltered and  filtered (0.45 jun)
<u> </u>
Comments:
(including depth of pump if used for sampling)

Time	Temperature (°C)	рH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks Slightly cloudy-	Clean
1100	11.8	7.69	810 A		angung ett p	

MANG-Great Falls 7-muy
Installation: Installation: 7-MWY
Client/Project: UAZUIPAP/ / Site: T
Sampled By: KAthern & Pritchett Ghazita Sample No: 4-1744-6W4
Sample Start: (Date) 5/13/46 (Time) 17/5 Sample End: (Date) 5/13/46 (Time) 1731
Background PID Reading: D ppm PID Reading: 33 ppm
Depth to Water (BTOC): 58.62'
Screen Interval: 42'-62' BLS
Sampling method: Boiler 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- new disposable bailer
Weather: Clardy, 506, N-NW winds, 15-20 mph
Lab Analyses:  (including preservatives and filtering if applicable)  VOCS (CLP) (4) 48-nl VOA Hel  SVOCS (CLP) (2) 1-l amber  TPH (8015) GRD (2) 40-ml VOA Hel  DRO (1) 1-l amber  DRO (1) 1-l amber  HAVO - whiltened and
TPH (8015) GRD (2) 40-ml vot (500)  DRO (1) 1-l amber  QA/QC Samples: Mother (CLP) (1) 1-l Poly HNO3 - unfiltered und  filtered  (0.45 pm)
Comments: (including depth of pump if used for sampling)
Produces sett! moderate producer.

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1731	14.5	7.66	836	7999	Clarky
		12/	$\bigcirc$		V
		X			

Installation: MANG - Great Falls Well No. 7-MW5  Client/Project: LIA 7 WRAP / Great Falls Site: T
Installation: MANG — ANG Well No. 7-7700 3
Client/Project: HA ZWRAP/Great Fallo Site: Town Site: Town South And Part Last Inst Chief Project Site: Town South And Site: Town South State Site: Town South S
Samuel Day Wall at Vollet att met chief wantiple No:
Sample Start: (Date) 5/12/4/ (Time) 16/5 Sample Eliu. (Date) 5/15/10 (Time) 76 (
Background PID Reading: One PID Reading: Open
Depth to Water (BTOC): 54,5311
Screen Interval: 43'-63' BLS
Sampling method: Bailor 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- neur disposable bailer
, were question as
Weather: Cloudy, 506, N-NW winks, 15-20 mph
Lab Analyses:  (including preservatives and filtering if applicable)  VOLS (CLP) (4) 40-me VOA HLL  SUKS (CLP) (2) 1-l amber  TPH (805) GRO (2) 40-me VOA HCL  DLO (1) 1-l imber  QA/QC Samples:  Metals (CLP) (1) (-l. Poly HNO3 - entireletted  and filtered  (0,45 plm)

Comments: (including depth of pump if used for sampling)	1
slav producer - but clear	

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks Olipty clardy -
1641	15.1	7.68	859	131	clear
		, h		•	
		7			·

MANG - Great Fulls on a-must
Installation: MANG-Great Fulls 8-med
Client/Project: HAZWRAP/Great Falle Site: 8
Installation: MANG - Great Falls ANG Well No. 8-MW  Client/Project: HAZWEAP Great Falls Site: 8  Sampled By: Natheyn Pertilett moe RJ Sample No: 8-MW - GW/  Sampled By: Natheyn Matheyn Pertilett moe RJ Sample No: 8-MW - GW/  Sampled By: Natheyn M
Sample Start: (Date) 5/15/96 (Time) 6/4 1/2 Sample End: (Date) 5/15/96 (Time) 1345
Background PID Reading: O pon PID Reading: O pon
Depth to Water (BTOC): 52, 74/
Screen Interval:
Sampling method: Bailer 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
di mal builer
- new disposable bailer
Weather: Clark
Lab Analyses:
(including preservatives and filtering if applicable)  VOCs (CLP) (4) 40-ml VOA HCL  5VOCs (CLP) (2) 40-ml VDA HCL  TPH (8015) GRO (2) 40-ml VDA HCL
nes (1) 1-l ander
metale (CLP) (1) 1-2 Poly HNO3-each inference
QA/QC Samples: metale (CLP) (1) It Poly HNO3-each unfitteed and fitteed sample

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1345 -	15.5	7.73	811	638	dightly Cloudy
			B		
			"	7	

MACALLE CONTRACTOR CON
Installation: MANG - Great Falls Well No. 8-mw2
Client/Project: 4A714KAT   BACT   Site: D
Sampled By: Kathern Pertilett/ Moe Cheer & Sample No: 8 - 11 0 2 - 1501
Sample Start: (Date) 5/14/46 (Time) Sample End: (Date) 5/14/96 (Time) /358
Background PID Reading: 10 ppm PID Reading: 10 ppm
Depth to Water (BTOC): 55!/7
Screen Interval: 99-69' BUS
Sampling method: Bailer 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
bumping Equipment 2000 maintained the hail a
- new disposable build
Weather: Sunny, 500, words 20-25 mph N-NW
· ·
Lab Analyses: (including preservatives and filtering if applicable)  VO (5 (CLP) (4) Yound VOA Hele  SVO(5 (CLP) (4) 1-4 (mbres
Lab Analyses: (including preservatives and filtering if applicable)  VOC5 (CLP) (4) Yound VOA Help

Comments:

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1358	14,8	7,82	938	63	Oes
		iv	<b></b>		
		1			

Installation: MANG - Great Falls Well No 8-mw + \$8-mw3
Installation: 14 0 - 11003
Client/Project: HAZWKAP/Great Site: 8
Sampled By: Kutheyn Priklett/ Chazi radah Sample No: 8-MW 60 8-1103
Sample Start: (Date 5/15/96 (Time) 13/5/8 Sample End: (Date) (Time)
Background PID Reading: 0 ppm PID Reading: 2.8 ppm
Depth to Water (BTOC): 5/26
Screen Interval: 37-57 BL3,
Sampling method: Bailer 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
- rew disposable builer
Weather: Clary, 500, windy
Lab Analyses:
. •
(including preservatives and filtering if applicable)  VUC3 ((LP) (4) 40 ml VOA HCl
5VO(5 (CLP) (2) (-l'amber
TPH (8015) GRO (2) 40-Me VOA Hel
QA/QC Samples: DRO (1) (-l amber
metals ((ip) 11 1-0 Pole. HNO2 - each unfittled
metals (CLP) (1) 1-le Poly HNO3 - each unfittled and fittled
(0,45 pm)
· · · · · · · · · · · · · · · · · · ·

Comments:

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1453	15,2	7,80	717	106	dightly clarks - clear
		i	1)		0 0
		7	*		

MANG - Great 8-mw4
Installation: NANG - GREAT Well No. 8-MWY
Client/Project HA7-WRAK   Great Fillsite: 8
Sampled By: Viller, Petrott/ Poplaries I Sample No: 1-mwy-6w/
Sample Start: (Date) 1/4/6 (Time) 1639. Sample End: (Date) 5/14/4 6 (Time) 1653
Background PID Reading: () ppm PID Reading: (), (o ppm
Depth to Water (BTOC): 53, 68
Screen Interval: 40-60' 865
Sampling method: Bailey 2"
Sampling Equipment:
Sampling Equipment Decontamination method:
Weather: Clardy, rain, 506, N-HHP NW winds (15-20 mpl)
Lab Analyses:
(including preservatives and filtering if applicable)  VOCs (CLP) (4) 40-ME WA HLL
SVOCS (CLP) (2) 1-l amber TPH CEP (8015) GRO (2) 40-ml VDA HCL DRD (1) 1-l amber QA/QC Samples: metala (CLP) (1) 1-l Poly HNO3 - lack implified and fittered (0,45 pm)

Comments:

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1653	13,9	7.65	883	534	difitty Cloudy
			KP		

- " 101/0	Site: Great Falls, MT, Site No. )
Installation: MANG	Well No: (-mw-)
Client/Project: MANG	
Purge Start: (Date) & JAGL (Time) 0800	Duniple: 101
Purge End: (Date) & July 6 (Time) \$ 200	FID Reading.
Purged By: MG / DB	Background PID Reading
	Depth to bottom of screen:
(DTOC) 52 (5 57	Depth to Bottom of Well (BTOC): 57.82 Fr
Depth to Water (BTOC). Business = (0.0408	3) x (well diameter (inches)) x height of water column
(feet) $9.17 \times 0.163 = 0.679$	nls
11.7	
Volume of Water in Well x $3 = 2 \cdot 03 \cdot 94$	
0.679 ×3 =	
Purge method: Bailor 3"	
Purge Water Containment: Poly TANK	(1.100 501)
Average Rate of Removal of Water:	
	Equipment for NAPL: —
LNAPL/DNAPL Thickness:	Equipment for IVI B
Weather: 70's Survy	
^	
Comments: purged Dry after	2 2 11 0
1 700 Rolly atta	2. 2 gallows @ 085¢

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Inital	0810		53.65	MA	13.7	7.83	4.63	32	Do=13.8
	U830				11.8	7015	0.62	418	30= 14.8
	0837	0.3			11,2	7.22	0.61	602	Do= 14.1
<del>.</del>	0845	o ، 3			141	373	0,62	807	120 = 13.8
•	6853	0,4	•		11,3	7.28	0.621	999	Do = 13.9
-	0856	0.0	Caro	Dex.					->
5701									
				1	n Ta				
					+				

	/ 2
- u · · · · · · · · · · · · · · · · · ·	Site: 1 / Great Falls
Installation: 911 A 71 C	Well No: 1-mw2
Client/Project: man C	
Purge Start: (Date) \$3196 (Time) 0910	
Purge End: (Date) 8 Jul 96 (1 ime) 10 00	Background PID Reading: (5.2)
Burged By: OB IMG	Dackground 1 112 1 tolker
Depth to top of screen: $V_c$ $\mathcal{A}_c$	Depth to bottom of screen: 60' BL5
Depth to to	Donth to Rottom of Well (B LUC).
Depth to Water (BTOC). 13.70 = (0.0408	x (well diameter (inches)) x height of water column
Volume of Water in Well (gallons) - (0.0400	) x (von change)
(feet) $16,02 \times 0.163 = 1.66 \text{ gal}$	, .
Volume of Water in Well x 3 = 7.83 gs 1	
Purge method: Baile 3"	
Purge Water Containment: (, / aò	gal Pdx Tork
Average Rate of Removal of Water:	C MADE.
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: For Sunny	

#### Comments:

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
0916	0.45	43,46	ab	12.9	8.29	0.45	10	10= 13.4
0922	115			11.5	7.21	1,52	10	Po = 14.5
					7.06	1,18	78	DO= 14,4
0927				11.4	7.00		10	Ao= 13,1
0934	1.3	·		11.8	2 22	1,53	764	Do= 13.7
6941	2,8			10.5			513	Do = 15.4
0947	2.8			10.7			325	120 = 15.3
०९४५	2-6				7.03	1.76		
				13				
			<del> </del>	-	-			

Initial

574A

Site: 6 GKBAI TAILS
Well No: 6-mal
Sample No: 6- mwr-6w3
PID Reading: 60 8)
Background PID Reading: 0,8
Depth to bottom of screen:
Depth to Bottom of Well (BTOC): 64.74 FT
3) x (well diameter (inches)), x height of water column
2416

Purge method: Saler

Purge Water Containment: Poly Tark

Average Rate of Removal of Water:

LNAPL/DNAPL Thickness: Equipment for NAPL:

Weather: 70's Sunny

#### Comments:

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1405	0.5	48.00		1211	7.2	0.53	8	130= 12.34 /clk	_
1409	1, 0			14.5	7.0	6.51	458	Do = 13,00/	Bre
1413	1.8			14.3	7.0	0,53	628	Do = 13.20	1
1417	1, 10			144	7.1	6.54	448	13.22/	ľ
1421	1. 74.			14.3	7.1	6,86	328	Do = 13,00 / 11	1 4
1426	1, 8			14.3	3.1	0,56	466	10= 12.70 c	cle
1431	1, 3		•	14.3	7.1	0.57	244	Do= 12.40	"
1436	1.8			14.2	7.2	0.58	310	Do = 12.20	٠,
1447	1.4			142	7.2	0.58	273	120- 12.32	(
			Do						
			100						

Initial

	Site: 6 GRENT falls
Installation: MANG	Site: 6 GREAT 44113 Well No: 6-mω2
THE STATE OF THE S	Sample No: 6- mw2 - 6w2
- C = (A: (Time)   3.24	
Purge Start: (Date) & July (Time) /3 Ja	Background PID Reading: Q. > f/m
	Depth to bottom of screen.
Depth to Water (BTOC): 54, Ja FT	Depth to Bottom of Well (BTOC): 6/.38 FT
Volume of Water in Well (gallons) = (0.0408	x (well diameter (inches)) x height of water column
(feet) $6.88' \times 6.163 = 1.12$	
(Icci) 6.80 × 0.103 = 1.112	,
Volume of Water in Well x 3 = 3.36 gals	
Purge method: Bally 2"	
Purge Water Containment: Poly Tork	100 cpl
Average Rate of Removal of Water:	
LNAPL/DNAPL Thickness: ——	Equipment for NAPL:
Weather: Fox Survy	
Comments: (1) Hydrocuber (Hc) Odor	
@ Brownish gray much	cy coloned.

Faitul

S700

Time	Volume of Water Removed	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pli	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1326	(gallons)	5415		14.7	71	0.56	18	(D/1)0=123
1333	1,8			13.8	7.8	0.62	999+	Op Do= 13.7
1337	. 8			13,4	7-20	0.68	9997	Op Do = 14.29
1344	108			13.5	6.99	0.70	9994	00 Do = 14-80
			. •	1			Ī	
				1				

Installation: MANG	Site: 6 CREST Folls
	Well No: 6-mw3
Client/Project: 411 1471 6	Comple No: Complete Gul 2
Purge Start: (Date) \$51.96 (Time) \$20	Sample No. 6- Mas 3- 5-
Purge End: (Date) \$50/26 (Time) 1605	PID Reading: 3,3
Day he Co	Background PID Reading As a Company
Duth to the of paragram Val RIX	Depth to bottom of screen: 60' ALS
TO TOO TOO TO TOO TO TOO TO TOO TO TOO TO T	Denth to Bottom of Well (BTOC). 60176
Volume of Water in Well (gallons) = $(0.0408)$	3) x (well diameter (inches)) x height of water column
(feet) 8.38 × 0.163 = 254	- /34
Volume of Water in Well x 3 = $\frac{9.097}{1.34}$	
Purge method: Bailer 2"	
Purge Water Containment: Poly Toole	1,100 gr
Average Rate of Removal of Water:	
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: Je's Sunny	
OC Clear	
Comments:	

Time Eastw Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
15 13 XX	8.5	52.04	1	16.0	7,1	0.52	lo	Po= 11.4 Clea	
4 1204	8.5				1	0.54	168	20 = 12,15	cl
3 1883	12.5		30	14-8	7.1	0.56	999+	Do= 12.40	c
1351	0.5		1	14-7	7.1	0.58	999t	Do = 12.7.3	t
10 1 \$40			7	14.9	7,1	0.60	733	Do = 12.55	c
14 17 4	0.5		1/	15.8	7.2	e.60	536	Do = 13.00	
19/1/49	0.5			15.0	7.2	0. 51	332	Do= 13.00	1
58 17.58	0,5			15,3	7.2	0.62	506	Do = 13.70	
Conts	1915								
-				nt	-				
				=					

			. حدید ۲۲						
				<u> </u>	7	marg.	GR E	AT falls	
Installat	ion: 777 A	n C				7- mw	V. (1)		
				Comp	la No	+- mu	3 - 6	ωユ	
		- 1 6/ /11	me) 1034	Samu	e ivo.	G. 7	0,0	pin	л
Purge E	nd: (Date) &	Jul 96 (11)	me) [[63	Pack	OTOUR!	d PID Read	ing: O.S	91	m
Purged	By MC	DB		Dant	to be	attom of scr	een:	- 3 Pr 2	
Depth t	o top of screen	n: 42	BLS	Depti	to B	ottom of W	ell (BTO	C): 62. 58	FT
Depth t	o Water (BTC	C): 5317	3 FI	שלא למ	ell dia	meter (inch	es)) x he	ight of water col	lumn
Volume	of Water in V	Vell (gallons	(0.0406)	o) x (w	CII GIU	4110101 (			
(feet)	9,13	x 0.163	1= 1.48	8 gals	-				
	-								
			1 16 - 18						
Volume	of Water in V	Vell x 3 = 9	1,70 9110						
1,4	88515 X	. –							
Purge n	nethod: Bo	110-1	ly Toul			100 50	1		
Purge V	Vater Contains				<del></del>	11-5-7-			
Average	Rate of Rem	oval or war	er.	Fauir	ment	for NAPL:			
	DNAPL Thic			Liquip	/11/0/1-	101			
Weathe	r: 70% S	U~~ 4							
Comme	nts:	Viels of L	. 0.0	1. +	10 1	ا دا ده د اد	<u>.</u>	· Arodat noted	ı
	0				No	SHEEN	or tree	froduct Rolls	
	@ Hychocan	Low ode	r staum	ye-					
				T	pH	Conductivity	Clarity/	Remarks	
Time	Volume of Water Removed	Water Level ft BTOC	Depth of pump intake	Temp (°C)	htz	(uS/cm)	Turbidity	1/	
	(gallons)	1.5.45						rglh	
1034	C. 45	53:45		12.10	6.92	0.5%	1.20	170=11.80	
				13,7	1,66	0.61	341	Do= 12.63	
1239	1.8							Do = 1268	
19-47	W. 5			13.4	7,00	\$.66	421		
10 46	0,5			13,4	7.01	0.68	340	Do = 12,62	
				13,4	5	0.69	326	13.52	
1051	0,5/			127.	17.01	0.07			

	Time	Volume of Water Removed (gallons)	Nater Level	Depth of pump intake	(•C)	pri	(uS/cm)	Turbidity	nglh	
Initis!	1034	C. 45	53:45		15.20	6.92	0.5%	130	130	(1)
IN. 7651	1239	1.8			13,7	699	0.61	341		0
	1977	4.5			13.4	7.00	\$.66	431	Do = 1268	(0)
					13,4	7.01	0.68	340	Do = 12,62	$\mathbb{O}$
	10 46	0,5			13,4	7.01		326	12.55	$\mathfrak{T}$
	1051	0,5			13.4			274	10=12,72	8
	1024	C.T		. •		7.03		23>	Do= 13.00	E
	1057	0.5				2.05		733	Do = 12.9	D
5708	1100	0.5			(31)	2, 07			Š	
					7	m	3			
					-					
					<u></u>	<u> </u>				7

Installation: MANG	Site: 7
0" . 10 ' m . m/ - # 4.7 (0) 4.0	Well No: 7- mw 4
Purge Start: (Date) 93-196 (Time) 09.58	Sample No: 7-may-602
Purge End: (Date) 7 351 96 (Time) 1075	Background PID Reading & & #/
	Depth to bottom of screen: (2) BLS
Depth to top of screen: 45 BL5	Depth to bottom of screen. (2) (2)
· ··· (PTOC). C1 73	Depth to Bottom of Well (BTOC): 62. 44
Volume of Water in Well (gallons) = (0.0408	x (well diameter (inches)) x height of water column
(feet), 4.71 x 0.163 = 0.7	67 915

Volume of Water in Well x = 3 = 2.30 gals

Purge method: Baller	2"	
Purge Water Containment:	Polx	Tank 1,100 gal
Average Rate of Removal of W	ater:	
LNAPL/DNAPL Thickness:		Equipment for NAPL:
	windy	70°-80°

Comments: & STRONS Hydrocuston oder emerting from well.

3 Sheen on unter

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
0953	0.5	57.73	11,48	15.2	7.1	0.55	2	Class (3)	
0958	0.5		12.38	13.9	7.0	0.56	9994	cloudy Brown	3
005	6.5		12.4	13.6	7.8	0.59	999+	11 11(4)	
1008	c.5		12.6	13.5	6.9	0.68	999+	1 4 ( 1	ව බු
1012	0,5	·	12.8	13.6	6.9	0,63	999t	11 21	2 (5)
-								7	
			•	1	-	u_			
				0.1	pr +	200			

I.tul

Inetalla	ation: MH	776		Site:			Falls		
Client/	Project: MA	m6		Well N	<u> 10:</u>	3	mw3	2	
	- (D-4-) (A	- 16/ (11	me) 1100	Sampl	e No:	7. mu	:3- 6 U	ے د	
Purge.	End: (Date) 9.	7.16( (Ti	me) //37						non
Purge	End: (Date)	123					ing: O	o. E) PP	
Purgeo	By: m 6	n: 45'	BLS	Denth	to bo	attom of scr	een: 6	5' R5	pur D
Depth	to top of screen			- 1	4- D-	-Mary of W	all (RTO)	c): 65./o	FT
Depth	to Water (BTO	C): 50.03	> = (0.0405	2) v (w	all dia	meter (inch	es)) x hei	ght of water	column
Volum	to Water (BTO ne of Water in W	/ell (gallons	,) = (U.U4UU	// X (***	)II W	111010-	,,		
(feet)			•						
	( 0.1	163 415/	* (						
		111	-						
Volum	ne of Water in W	$Vell \times 3 =$							
۷ (راسان									
Durge	method:	Bailu	J //						
Pulze	Water Contains		pely	TAN	1c				
Pure	ge Rate of Remo	oval of Wat							
Averas	L/DNAPL Thic	olenoce.	<u> </u>	Equip	ment	for NAPL:			
		KIICSS.							
Weath	er:				,	`			
	$\mathcal{O}$ s	heen to	Sur face	Csly	ght	)			
Comm	ients:	4	,	n					
		6.5 gr	lo pur	rged				•	
			Do						
			Do						
Time	Volume of	Water Level	Depth of	Temp	pli	Conductivity	Clarity/ Turbidity	Remarks	
1 inte	Water Removed	n BTOC	pump intake	(°C)		(uS/cm)	lurbiany		
	(gallons)	<b></b>	·	<del> </del>	C	1		clue	
11/05	8.5	50.03	13.8	14.3	8.0	Ø.66	0.0	cuse	
17.00				1,7 %	73	9.88	224	Cloudy	Brown
1(28	8.2	<del> </del> '	14.6	17.4	7 =	7.00	11 ( 0	2:	11

In trol

570P

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (•C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
21.5		50.03	13.8	14.3	8.0	\$.66	0.0	clase	
1/55	8.2	3	14.6	13.0	73	9.88	224	Cloudy	Brown
1(28	<b>Q.5</b>		15.70	12.8			468	21	11
1112	Ø.5		15.4			0.77	624	lc	lr
11 14		·	16.8		7.2		751	10	11
1118	1.8		15.6	12.1	7.2	Q. 74	376	11	1,
1122	), &		15.8	12./	7.2		354	14	1,
1123	1, 8		16. X	11.9		W.71	296	11	10
113.3	1.8	<u> </u>	16.4						
				1	16,				
				+					
			<u></u>				l		

	Site: 7 CREAT Fallor
Installation: MANC	Site.
Client/Project: 777 77 77 C	Well No: 7 mws
Purge Start: (Date) & 20194 (Time) 1111	Sample No: 7. mws-6w2
Purge End: (Date) 8 5-186 (Time) 12-00	
Purge End: (Date) 8 30 (46 (Time) /200	Background PID Reading: \$\psi_c \times \qquad \tau_c \times \qquad \tau_c \times \qquad \tau_c \times \qquad \qquad \tau_c \times \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq
Purged By: M C / DB	
Depth to top of screen: 43' BL s	Dentil to bottom of screen.
(3)	
Volume of Water in Well (gallons) = (0.0408)	3) x (well diameter (inches)) x height of water column
(feet) $10.21 \times 0.163 = 1.66 \text{ gr}$	lr.
Volume of Water in Well x 3 = 4. 99 g.1	
1.66 geli ×3-	
Purge method: Boile 2"	
Purge Water Containment: Poly Tow	K
Average Rate of Removal of Water:	
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: 70's Sur-4	
O Shaht Hudares Gow (	4c 1 order

Comments:

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
tial	1137	0,48	53.19		14.7	7.06	0.730	180	120=12.7
,,,,,,	1126	6.45			13.7	7.1	,577	999+	Po= 13,4
	1130	0,45			135	711	0.600	999+	Po= 13.6
	1134	0.75			13.5	7.1	0,690	999+	Do = 1411
	1138	0.75			13.6	7.1	0.660	999+	De = 19200
	11 45	0.5			13.5	7.1	0.69a	949+	100= 19.20
	11 52	0,5			13.3	7.1	0.715	799	170 = 14.26
POT	1157	100			13,0	7.1	0.725	999+	Do= 1421
	II .			1	i e	1	1	•	1

					C	4.0		1/-	
Inctaliat	ion: M	A116		Site:	8		EAT FA	7(3	
Client/P	roject: 3713	7116		Well	No:	8 -1	nul		
Durge S	roject: 111 7 tart: (Date) 9	30196 (Ti	me) 0830	Samp	le No	: g- mw	1 -60	0 4	. 4.
Durge F	tart: (Date) 9 ind: (Date) 9	Jul 96 (Ti	me) 0400	PID F	Leadin	ig:	73.3	. 16	pp
Purged	By: MC			Dave	-1-7-7-1		ing. 🛇	o. & pp	
Denth to	o top of screen	n:		Depth	to bo	ottom of scr	een:	C). 50 C	& F
Depth to	o top of screen o Water (BTC	C): 52,	86 FT	Depth	to B	ottom of W	ell (BIU	ight of wa	ter colu
Volume	o Water (BTC) of Water in V	Vell (gallons	s) = (0.0408)	3) x (w	ell dia	meter (inch	les)). X lie	igin or wa	
(feet)	(	02× 6.1	43 = 0.9	81					
(	. ما	C-7 C.1					,		
Volume	of Water in V	$Vell \times 3 = $	, 9 492 ls						
		3 = -	)		· ·	2.6			
Purge n	nethod:				Poly	Took	L	(00)	
Purge V	Vater Contains	ment:			1 7				
Average	Rate of Rem	oval of wa	iei.	Equipment for NAPL:					
	/DNAPL Thic	Kness: <		sindy		80'5			
Weathe	r:						Λ		
Comme	nte. Purs	ed Dry	6	20	gal	remove	I.		
Comme	ints.	, , ,	C.		/				
			7						
			Do						
Time	Volume of	Water Level	Depth of	Temp	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
	Water Removed (gallons)	n BTOC	pumpintake	(°C)		(us/ciii)			
0840	¢.5	52.86	9.7	1519	7.1	0.66	9	Clear	
0845	(p, 5		11.10	14.5	7.2	0.68	9997	Cloudy	Brown
			11,13	14.2	7.2	0.68	899 t	* :	"
0848	0,5					668	999+	16	1,
0851	0.5		11.20	1111	7.5	0 6 6			
		<u> </u>			-				
			1						
			0						
			Pul						
			Pul						

Ana 12 an 1	Site: O GREAT FAILS
Installation: MANG	Well No: 8-mw2
Client/Project: MANG	Comple No: 0- mw2- 642
Purge Start: (Date) & Jol 96 (Time) 1648	Sample No. 8 Mos Dew
Purge End: (Date) 8 July (Time) 170 8	PID Reading.
Durand By: In 6 / DR	Background PID Reading 4:0
Double to the of corpon. 44 BLS	Depth to cottom or server
ATOM ST	Depth to Bottom of Well (BTOC): 64.4% FT
Volume of Water in Well (gallons) = (0.0408)	3) x (well diameter (inches)), x height of water column
40	
(feet) 12.84 x 8163 = 2.89 s	Als-
,	
Volume of Water in Well x 3 = $(.27 \%)$	9-1
Volume of Water in Well x $3 = 4.5 \text{ m}$	Jan.
2.09 sils x 3 =	
Purge method: Bailer	
Purge Water Containment: Poly Tank	(, (0) 91
Average Rate of Removal of Water:	
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: Fo's Sunny	
Weather. 90 3 2000	
Comments: ( land & Saw 1)	Lucu ,

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	100
1630	0.5	51.54		15.0	7.2	0.78	243	Cloudy	BO 12.9A
1635	0,5			14.8	7.2	Ø.73	999+	11 Brown	12.40
1639	0.5				7.2	6.71	959+	1, 111	12.44
1641	0.5				7.2	6.73	999+	1, 1 11	12.50
1644	0.5			13.5	7.2		736	7 1	12.82
:651	1, 8			14.80	7.2	4.75	746	11 / 11	13.aa
1654	0.5			13,5	7.2		999+	1, / 1, -	13.80
1700				13.9	72	8.74	9997	1. / 1,	12.44
1704	1.80			13.7	7.2	0.74	999+	4/1/	13.48
17									
			1 de	3					

Initial.

	Site: 8 GREAT FAILS
Installation: AN AN C	U1.U.
Client/Project: 411 H 71 G	Well No: 8-mw-3
Time (Time)	Sample No: 8- hws - 6w
Purge Start: (Date) & 33.96 (Time) 1745 Purge End: (Date) & 33.96 (Time) 1745	
Purge End: (Date)	Background PID Reading: 8. 8 ppn
Purged By: W.C. DR	Death to bottom of screen: 57' 15'L'S
Depth to top of screen: 37	Depth to Bottom of Well (BTOC): 57.3N FT
Depth to Water (BTOC): \$1, 28	Depth to Bottom of Well (BTOC): 57.3 p FT  2) x (well diameter (inches)) x height of water column
Volume of Water in Well (gallons) = (0.0406	) X (MCII diminotor (mana))
(feet) $6.8 \times 0.163 = 0.978$	8 gmb
Volume of Water in Well x 3 = 2, 934 34	l-
Purge method: Bailer 3"	1,100
Purge Water Containment: Poly LANK	1,100 \$1.1
Average Rate of Removal of Water:	- L C-NADI:
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: 70's Sunny	
Comments: Dry ( ) 7 75 54 (s	

	_	
1	,	1
L	tia	/
NN	1714	ı

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	25/L Do
1726	(gallons)	51.30		15.2	7.1	0.51	10	clear	17.18
1728	8.5			13.8	7.8	0.53	444	cloudy	13.18
1731	4.5						839	cloudy	13. 20
	<b>6.5</b>			13.9		8.54	654	(loudy	13.78
1735	0.5	·		13.9		0,54	28	Class	19.40
					<u> </u>				-
									-
			0	12	1				4
									4
									4
							<u> </u>		

	Site: 6 Great Falls
Installation: MAnc	Well No: &- May 4
Client/Project: man6	Well No. 8= 1/1005 9
Purge Start: (Date) 95-196 (Time) 0700	Sample No: 3 May 7
Purge End: (Date) 904 96 (Time) 0932	FID Reading.
Durand Par MG	Background PID Reading
- · · · · · · · · · · · · · ·	Depth to bottom of screen: 60 RLS
Depth to top of TOOL \$7 34 1 T.T.	Denth to Bottom of Well (BTOC): 60.42 FT
Depth to Water (BIUC). 33. 71	(mohes) by height of water column
Volume of Water in Well (gallons) = (0.0408	3) x (well diameter (inches)) x height of water column
(feet) $C.62 \times 6.143$	= 1,088 sils
Volume of Water in Well x 3 =  1,088  \( \frac{1}{3} = \frac{3}{4} \) 66 gals  Purge method:	D'' Baile
	AS Tank 1 100gal
Purge Water Containment:	739   576
Average Rate of Removal of Water:	
LNAPL/DNAPL Thickness:	Equipment for NAPL:
Weather: Surry warm	Windy

#### Comments:

Domle

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
2912	4.5	23. 7.W	11.3	144	7. 8	8.62	10	Clear
4512	k		11.7	13.6 13.60 B	7.1	e.66	664	Cloudy Gray
C4 14	8.5		11,7	13.7	7.1	0.68	743	le Le
0918	8.5		11.7	13.4	7.1	€.7c	777	Li te
مدو م	8.5		11.7	13.5	7.0	2º.70	564	Le Le
0925			!1,7	13.6	7.1	0.71	382	cleve
0930			11,7	13.8	7.1	6.71	383	Clese
				-	3		$\geq$	
				1				

Frital

	Well No. 1-MWI
Installation: m n n G	Site:   GREAT FALLS
Client/Project: m na n c	Sample No: 1- mw2- 6w3
Sampled By: DB/m6	The state of the s
Sample Start: (Date) 9 J 4 96 (Time) 1310.	PID Reading: V. & Det.
Background PID Reading: W. & Pen	PID Reading. S. R. D. R.
Depth to Water (BTOC): 43.48	BL
Screen Interval: 4-60	DL
Sampling method: Beiler 3"	
Sampling Equipment: Back 2"	
Sampling Equipment Decontamination methods	od:
None Disposable	
Weather: 703 Suncy	
Lab Analyses:  (including preservatives and filtering if applications of the substitution of the substitut	- 190 CLA - NOOL
Neve for smilt	
T13-A	
TEMO Black	
Comments: (including depth of pump if used for sampling	g)
Clase	

Time	Temperature	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1320	15.8	7.2	(, 48	G . 0	13,4	clem
,			MG			
						`

		Well No.	1- mw1	
Installation:	mane	Site: \	COREAT 1	FALLS
Client/Project:	man G	Sample No:	1- mai- 60	
Sampled By:	D MC		(Date) Wize (	
Sample Start: (Da	ite) 1131116 (Time) 09 50.		6.0 per	100
Background PID		PID Reading.	6.0 pm	
	BTOC): 55 8 7			
Screen Interval:				
Sampling method:				
Sampling Equipm	ent:			
Sampling Equipm	ent Decontamination meth	od:		
	None 1	esposil		•
Weather: Sun.  Lab Analyses: (including preserved for 15/49/12 Proce 3/10 cl Processor	atives and filtering if applic — HCC — NONC	cable) netelr-3140 C	P ~ H~~3 (	Filtrad Juntilburl
QA/QC Samples:	THE TABLE			
			•	
TRIP Black				
Tamp Blank				
	f pump if used for samplin		to ( Belw)	culd be taken)
	*			

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
		7			
	purges		Pry		

2 - 20 m F	Well No. 6-mwl
installation.	Site: G GREAT Falls
Client/Project: 1/1 14 11 6	Sample No: 6-mai- 6 a 3
Sampled By: DR 1 mc	Sample No. (Deta) in (Time) OFFX
Canti (Date) . Tig (Time)0906 -	Sample End: (Date) 10311 96 (Time) 095%
Background PID Reading: 6.0	PID Reading: 5.7 //*
Background PID Reading.	
Depth to Water (BTOC): 47.46	
Screen Interval:	
Sampling method: 3 Daily	
Compling Equipment: 2" Barter	1.
Sampling Equipment Decontamination metho	oa:
7000	

D12 Posal

Weather: cloudy 203

Lab Analyses:

(including preservatives and filtering if applicable)

VOC W/92 CLA- HCL

SUUC 3/90 CLP- NUNC

metals (Total, Dissolved) 3/40 CLA - Hruz QA/QC Samples: TPH-GRO-HEL TPH- DRO-More

TEMP Blank

TRIP Black

Comments:

(including depth of pump if used for sampling)

fair - Poor Preduces.

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
0915	152	7.5	0.49	42	11.3	Che
- 7.0			Ma			

Well No. Installation: MANG Site: Client/Project: mn n n 6 - mw 2 · 6w2 Sample No: 6 Sampled By: DB/m6 Sample End: (Date) (# July (Time) 0906 Sample Start: (Date) Logal 96 (Time) 0800-Background PID Reading: 80.8 PID Reading: Depth to Water (BTOC): BL5 41-61 Screen Interval: 211 Sampling method: Sampling Equipment:

Sampling Equipment Decontamination method:

Disposal only

Weather: cloudy usem 70's

Lab Analyses:

(including preservatives and filtering if applicable)

Moc 10/92 CLP - Hel Succs 3/40 CLP - Nove Metals (Total, Dissolved) 3/40 CLP - Hows QA/QC Samples: TPH-GRO-IKL TPH-DRO-NONE

Temp Black. Trip Black

Comments:

Time	Temperature	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
0815	15,4	7.(	0.73	79	(0.3	clen
			M			

	Well No. 6- mu3
Installation: manc	Site: 6 CREAT FALLS
Client/Project: mans	Sample No: 6-mw3-6w2
	Sample Find: (Date) to Tulge (Time) 1008
Sample Start: (Date) Logal 86 (Time) 1000.	DID Bonding: 6 3 444
Background PID Reading: O. S. place	PID Reading: 0.0 pm
Depth to Water (BTOC): 5 5.18	
Screen Interval: 46-60' BL5	
Sampling method: Bailer 3"	
Campling Equipment	_ 1.
Sampling Equipment Decontamination meth	od:
None	Disposit
Lab Analyses: (including preservatives and filtering if applic	cable)
VOC 10/92 CLP- HCC	TPH (610) BOIT-HEC
Succ 3/90 CLA- home	7 PH (DRO) BOIS- NONE
1.00	
metals 3/10 CL7- Haus	
QA/QC Samples:	
Duplicate (6- mw3A-GWZ)	
Tri, Bull.	
Temp Black	•
Comments:  (including depth of pump if used for sampling	ng)

(T/D)

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1000	12.7	7.5	0.60	0-0	11.6	clese
			19	<i>G</i>	+	

Installation: MANG	Well No. 7 - mw 2 - 6w 1
1::01	Site: 7 GREST Falls
Client/Project: 7nnn6	
Sampled By: Do Im G	Sample No: 7- nw2- 6w2
Sample Start: (Date) 9 72/9/ (Time) 1424.	Sample End: (Date) 93-196 (Time) 1455
Background PID Reading: O & por-	PID Reading: 131.8
Background PID Reading. Or & power	
Depth to Water (BTOC): 53.38	
Screen Interval: 45'-65' BC5	
Sampling method: Bailing	
Sampling Equipment: 3A.(e- 2'	
Sampling Equipment Decontamination method	od:

Weather:

Lab Analyses:

(including preservatives and filtering if applicable)

#### Comments:

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1420	17-0	7.4	O.C&	80	14.9	clas
			- 11	G		

Well No. 7- mw3
Installation: 111 11 11 4
Client/Project: MANG Site: 7 Graf 1200  Sample No: 7-mw3-6w3  Sample No: 7-mw3-6w3
Sampled By: DB m 6 Sample Fnd: (Date) 11 July (Time) 0300
Sample Start: (Date) 11 JAG (Time) 10450 - Sample Bits. (1997)
Background PID Reading: 8- & pea.
Depth to Water (BTOC): 50.03
Serson Interval: 45'-65' BLS
Sampling method:
Cline Equipment
Sampling Equipment Decontamination method:
N/A Dispusation of baile
Weather: Sund winds were
Lab Analyses:  (including preservatives and filtering if applicable)  VOC 10/92 CLP - HCC TPH 6005 DRO - NOVE
SUDE 3/40 CLP-rone metals 3/40 CIA (Total, dissolved)
QA/QC Samples:
TRIP Blank
Timp Blank.
Comments: (including depth of pump if used for sampling)

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks Do mla	
0760	14-7	7.3	6.90	6,0	14.00	clean
			me			
			1 7 0			

Installation: man 6 Well No. 7-	mwy
Tilstanation:	Corent Falls
Client/Project: 777 F 77 G	7-mw4-6w2
Sampled By: D3 / M 5 Sample No. Sample Start: (Date) 113-124 (Time) 0900- Sample End: (Date) 113-124 (Time) 0900- Sample End: (Date) 113-124 (Time) 0900- Sample No.	Date) 4 July (Time) 0920
Rackground PID Reading: 6.2 PID Reading:	89.10
Background 122 1to 1	o x fe-
Depth to Water (BTOC): 56.35	
Screen Interval: 45' - 62' BLS	
Sampling method: 211 Baile	
Sampling Equipment:	
Sampling Equipment Decontamination method:	
NA Disposal of back	•
Weather: Sun my maken, windy.	
Lab Analyses: (including preservatives and filtering if applicable)  Voc 10/92 CIP - HCC TPH- 8015- DRO.  Svoc 3/90 CLP - NONE Methods 3/90 CLP-	HCC - NONE HNO3 (Total, Dissolved)
QA/QC Samples:	
Trip Blank	•
Temp Blank	
Comments: (including depth of pump if used for sampling)	_
5, Rung Hydre answer Oler	

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
6900	13-3	7.5	0.70	153	123	(U)
			me			
			100			

# ( )

	Well No. 7-mo5-6w2
Installation: mnnff	
Client/Project: mn n n G	Site: 7 GREAT Fills  Sample No: 7-mws-6w2
Sampled By: Da /m 6	(Time) 44 Die
Sample Start: (Date) 95146 (Time) 1520	PID Reading: 1, 7 op.
Background PID Reading: 6. 8	FID Reading.
Depth to Water (BTOC): 53,53	
Screen Interval: 43' - 63' BLS	
Sampling method: Railer 2"	
Sampling Equipment: Reder 3"	od:
Sampling Equipment Decontamination methods	ou.
Disposal	
Weather: 70's Survey	
Lab Analyses: (including preservatives and filtering if applic	cable)
vocs 10/92 CLZ HCL	TAH- Dro -
TAH GRS HCL	metalo - ANO3.
Succ 3/40CLP -	THE COURT OF THE C
QA/QC Samples:	
MONE for Samples-	
IB- B.	
TEma Black	
Comments: (including depth of pump if used for sampling	; g)
(moraging achen or bamb is appropriate	-

Time	Temperature (°C)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1600	19, 8	7.2	0.61	6.0	13.69	olese
			Ne			
			, , ,			

Installation: MAME	Well No. 8- mw 1
Installation. 1111110	Site: 8 GREAT FAKS
Client/Project: 777#71 6	
2 1 1 2 2 2 1 (	Sample No: 8-mw1 - Gw2
Sample Start: (Date) (ATUIG. (Time) 1445	Sample End: (Date) world (Time) 1445
Danipie Start. (Date) (Ogera (Danipie	PID Reading: 1.8 are
Background PID Reading: 6.0 p/m	The Reading Te o Mire
Depth to Water (BTOC): 52.36	
Screen Interval:	
Sampling method: Baller 2"	
Sampling Equipment:	
Description meth	od.

Sampling Equipment Decontamination method:

Dixini

Weather: Suny, windy unem

Lab Analyses:

(including preservatives and filtering if applicable)

QA/QC Samples:

Comments:

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks Do ma / L	
15-45	18.7	7.7	0.69	0.0	D.9	clave
			/	76		

8-mwlA-6w2 (Duplique)

	0 (
Installation: mmmm5	Well No. 8-mw 2 - 6w2 Site: 8 CLEAT Falls
Client/Project: man 6	Site: 8 CLEAT FAILS Sample No: 8-mw2-6w2/8-mw24-6w2
Sampled By: DB /mr	Sample No: VPtt) La La (Time) 2440
Sampled By: DA / MY (Time) 1440	Sample End. (Date) to July 12 (11111)
Background PID Reading:	PID Reading: 7.6
Depth to Water (BTOC): \$1,49	
Screen Interval:	
Sampling method: Bailer 3"	
Sampling Equipment: Rail of 21	1.
Sampling Equipment Decontamination metho	oa:
Disposal	
Weather: cloudy warm 703.	
Lab Analyses:  (including preservatives and filtering if applied by the long of the long o	TPH- DRU- NONE
TEMP Blade  TB  (1) Deplicate sample taken.  Comments:  (including depth of pump if used for sampling)	; g)
Duplicate sack take here	<del>-</del>

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	,
13 3 5	17.5	2.7	0.96	00	13.9	Clegi
			/	76,		

Installation: MANG	Well No. 8-mu3
	Site: 8 GREAT Falls
Client/Project: MANG	Sample No: 8-mio3-6w2
Sampled DV.	
Sample Start: (Date) 103-196 (Time) 1440.	Sample End: (Date) WIAS6(Time) 14 45
Background PID Reading: Das 190	PID Reading: 1.8 pp.
Depth to Water (BTOC): 52.28	
Screen Interval: 37' - 57' BLS	
Sampling method: 3" Baile	
Sampling Equipment: 4	
Sampling Equipment Decontamination metho	od:
Distosal	•
Weather: Survy mild	

(including preservatives and filtering if applicable)

TPH - 8015 - 6RD - HCL

TPH - 8015 - 6RD - HCL

Mctule - 3/40 CLA - TOTAT

Dissolved - Haus

#### QA/QC Samples:

TEMP BLANK

#### Comments:

Time	Temperature (°C)	pН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
1-145	18.3	7.6	22,0	0.8	12.1	clen
			p	6		
					1	

mmm	Well No. 6-mw4
Installation: MANG	Site: B Grant Falls
Client/Project: MANB	Sample No: 8-mwy Gws
Sampled By: Dn /mc	Sample No: 6-7604
Sample Start: (Date) 113-176 (Time) 800	Sample End: (Date) 11 Jage (Time) 0835
Sample Start: (Date) 11.30 70 (Time) - 888	PID Reading: 9.8 pp.m.
Background PID Reading: 6-0 ppm	PID Reading. 1.0 pr
Depth to Water (BTOC): 53, 75	
Screen Interval: No'-60'	315
Sampling method:	2" Bailer
Sampling method.	
Sampling Equipment:	

Sampling Equipment Decontamination method:

Disposal

Weather: Sury, mild, wind.

Lab Analyses:

applicable)

metals 3/40 CL7 = Dissolved - Hare 3 (including preservatives and filtering if applicable)

VOC - 10/42 ELP-HCL

SUOC - 3/10 CL7 - NONE TAH- 8015 - 600 - HCL Dro - NOVE

QA/QC Samples:

TRIP Blank - VCC

TEMPIBLANK.

Comments:

Time	Temperature (oC)	рН	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
0805	13,7	7.6	15.0	12, 2	12.8	clese
			/	20		
				167		

# APPENDIX D QA/QC DISCUSSION

### APPENDIX D DATA QUALITY ASSESSMENT

#### 1.0 INTRODUCTION

Chemical data are fundamental to understanding contamination and its impact on human health and the environment. These data support decisions regarding the need for remedial action and influence the selection of remedial alternatives. Data regarding contaminant concentrations in the environment contain uncertainties resulting from both variability and error.

The purpose of this appendix is to evaluate the chemical data collected during the Remedial Investigation (RI) at the Montana Air National Guard, Great Falls, Montana, and to assess the ability of the data to meet the project specific data quality objectives (DQOs) identified in the project Work Plan (WP). The data quality assessment (DQA) methodology presented in this appendix includes a discussion of validation of the data, and a review of data accuracy, precision, representativeness, completeness, and comparability. Validated chemical data are presented in Appendix E.

#### 2.0 DATA QUALITY OBJECTIVES

The purpose of the RI was to determine the nature and extent of contamination from known and/or suspected chemicals of concern at four Installation Restoration Program (IRP) sites. The sampling effort consisted of two rounds of groundwater sampling conducted in May and July 1996; and surface and subsurface soil sampling at each of the four sites. Data Quality Objectives (DQOs) for the RI are discussed in Section 3 of Appendix B (Quality Assurance Project Plan) of the RI WP.

All chemical data for this project were generated as definitive level data with abbreviated laboratory data package deliverables (HAZWRAP Level C deliverables). Due to problems with the operation of the field gas chromatograph, screening level data were not generated for this project as proposed in the RI WP. Samples proposed for quick turn-around field screening analysis of volatile organic compounds were analyzed by the fixed-base laboratory with results provided within 48 hours.

#### 3.0 ANALYTICAL PROGRAM

#### 3.1 Analytical Methods

Soil and groundwater samples were analyzed according to analytical methods specified in the WP. Analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were performed in accordance with USEPA Contract Laboratory Program Statement of Work for Organic Analysis (OLM01.8) and USEPA Contract Laboratory Program Statement of Work for Low Concentration Water for Organics Analysis (OLC02.0). The target compound list specified in OLM01.8 was reported for VOCs in soil, and SVOCs in soil and water. The target compound list specified in OLC02.0 was reported for VOCs in water.

The priority pollutant metals, plus barium, were analyzed according to *USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis (ILM03.0)*. Groundwater samples were analyzed for total and dissolved metals. Analysis of total petroleum hydrocarbons (TPH), including gasoline, diesel, oil, and JP-4 fractions, were performed according to SW-846 Method 8015

(modified). Purge and trap sample preparation (Method SW-5030) was used for gasoline-range TPH, and extractable TPH fractions were prepared using Method SW-3550 for soils and SW-3520 for waters.

#### 3.2 Analytical Laboratory and Reporting Requirements

All samples for this investigation were submitted to Laucks Testing Laboratories, Inc., in Seattle, Washington for analysis. Laucks is a HAZWRAP-recommended laboratory that has successfully completed the HAZWRAP laboratory review process. HAZWRAP Level C laboratory deliverables specified in Table 10.2 of the WP were provided.

All soil sample results are reported on a dry weight basis. Moisture content of soil samples is reported on the analytical data tables located in Appendix E.

#### 4.0 FIELD QUALITY CONTROL SAMPLES

Field quality control samples, including field duplicates, field blanks, equipment rinsates, and trip blanks, were submitted to the laboratory to provide a means of assessing the quality of the data resulting from the field sampling program. Results for field QC samples are included in Appendix E.

#### 4.1 Trip Blanks

Trip blanks were analyzed to assess potential VOC contamination during shipping and handling. Trip blanks were supplied by the laboratory, and consisted of ASTM Type II organic-free water that is preserved to pH <2 with hydrochloric acid. A trip blank was included in each sample cooler that contained environmental samples for VOC analysis. A total of 32 trip blanks were analyzed during the RI.

No significant contamination problems associated with sample shipping and handling were indicated based on trip blank results. Trip blanks were analyzed for VOCs only.

#### 4.2 Field Blanks

Field blank samples were collected during each round of sampling from each of the water sources used for sampling equipment decontamination. Field blanks were analyzed to provide information concerning the quality of potable and ASTM Type II water used for decontamination of sampling equipment. A total of four field blanks, two from each sampling round, were analyzed for all analytical parameters. Field blanks collected during the first round of sampling are identified as MANG-FB1-DI (ASTM Type II water) and MANG-FB2-PW (potable water). Field blanks collected during the second round of groundwater sampling are identified as FB-PW-GW2 (potable water) and FB-DI-GW2 (ASTM Type II water).

Potable water field blank samples did contain some contaminants, however, because significant levels of contaminants were not detected in equipment rinsates, sampling equipment appears to have been sufficiently decontaminated. Therefore, levels of contaminants in potable water blanks have not adversely affected sample results.

#### 4.3 Equipment Rinsates

Equipment rinsates were analyzed to measure the effectivesness of the decontamination process. Equipment rinsates are samples of the final analyte-free (ASTM Type II) water used in rinsing decontaminated sampling equipment. HAZWRAP specifies that equipment rinsates be collected at a frequency of one per ten investigative samples collected per sample matrix. A total of four equipment rinsates (8-RB1, 6-RB1, 7-RB1, and 8-RB2) were collected during first round soil sampling. Equipment rinsates were not collected during groundwater sampling because dedicated sampling equipment was used, and decontamination of equipment was not performed. Equipment rinsates were analyzed for all analytical parameters.

Equipment rinsate results indicate that decontamination procedures of sampling equipment were adequate.

#### 4.4 Field Duplicates

Field duplicate samples are collected to give an indication of the variability of sample handling, preservation, storage, and the analytical process. Field duplicates may also provide an indication of the degree of variability within the sample matrix. HAZWRAP specifies that field duplicates shall be collected at a frequency of ten percent per matrix. A total of four field duplicate pairs were collected for groundwater, two in each round of sampling. Because of poor sample recovery, no field duplicate samples were collected for soils.

Field duplicate results are discussed in Section 6.1.2.

#### 5.0 DATA VALIDATION PROCEDURES

All environmental sample results, including field duplicates, were validated according to procedures specified in the WP. Field quality control samples, including trip blanks, field blanks, and equipment rinsates, were not validated; however, results for these samples were used in assessing environmental sample results. Results from the potable water field blanks were not used to qualify environmental samples. Decontamination water analyses (samples DCPW-1 and PAPW-1), and Toxicity Characteristic Leaching Procedure (TCLP) results were also not validated.

USEPA Contract Laboratory Program Functional Guidelines for Organic Data Review (February 1994), and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994), were used for VOC and SVOC, and metals results, respectively. HAZWRAP Level C validation guidelines for gas chromatography methods were used for validation of TPH results. Data validation was performed at HAZWRAP Level C by the Analytical Environmental Support Group of Lockheed Martin Energy Systems in Oak Ridge, Tennessee. A list of the environmental and field QC samples analyzed, and their associated Sample Delivery Groups (SDGs) are provided in Table D-1.

Data validation included completing validation worksheets with documentation on the review of all required criteria and recording specific reasons for all validation qualifiers applied. Validated laboratory Form Is are attached to the validation worksheets. The following definitions provide a brief explanation of the meaning of qualifiers assigned to sample results during data validation:

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

If multiple analyses were reported by the laboratory because analytes exceeded the instrument calibration range or reanalysis was required due to laboratory QC problems, the best result for each analyte has been incorporated into one set of results for each sample parameter and is reported in Appendix E as the "composite result".

#### 5.1 VOC Data Validation

Holding times were met for all sample analyses. Several samples in Sample Delivery Group (SDG) OP11X were qualified as estimated (J/UJ) due to elevated cooler temperatures (10.5 - 12.7°C) at the time of laboratory receipt. Nondetected results for two monitoring well samples (1-MW1-GW2 and 7-MW4-GW2) were rejected (R) because recorded cooler temperatures exceeded 20°C at the time of laboratory receipt.

Instrument tuning criteria were met for all sample analyses. Internal standard area criteria were met for all samples with the exception of 6-MW3-20.5. Low area counts were reported for all three internal standards for this sample, requiring all VOC compounds to be estimated (J/UJ).

Several compounds exhibited low relative response factors (RRF) during initial calibrations (ICAL), requiring the estimation of detected compounds (J), and rejection (R) of nondetected compounds. This was specifically a problem with several ketones (acetone, 2-butanone, and 2-hexanone), and 1,2-dibromo-3-chloropropane during the analysis of low-level VOCs in water samples. Compounds that exceeded percent difference (%D) criteria for continuing calibrations were qualified as estimated (J/UJ).

Low levels of target compounds were detected in laboratory method and storage blanks, and associated trip blanks, field blanks and equipment rinsates. Laboratory blank contamination was generally limited to the common laboratory contaminants methylene chloride (0.11-2.0 ppb) and acetone (1-5 ppb). Occasional detections of carbon sulfide (1 ppb), toluene (0.01-0.05 ppb), and trichloroethene (0.41 ppb) were also observed in laboratory blanks. Associated field QC blanks

reported low levels of several VOCs. The 5X/10X rule was used in qualifying environmental samples based on laboratory and field blank contamination. Overall, the levels of contamination in laboratory and field QC blanks were not significant.

Results for three samples were estimated (J/UJ) because one or more surrogate recoveries exceeded QC limits. Samples affected were 6-SB18 8-8.3, 6-SB15 7.7-8.1, and 6-DW1 4.1-4.6. All laboratory control sample (LCS) analyses for low-level VOCs in water were within QC limits. One or more matrix spike compounds exceeded percent recovery (%R) or relative percent difference (RPD) limits for four soil matrix spike/matrix spike duplicate (MS/MSD) pairs. Because no action is taken based on MS/MSD results alone, samples were not qualified due to MS/MSD results.

#### 5.2 SVOC Data Validation

All samples were extracted and analyzed within required holding times. Instrument tuning, initial calibration, and internal standard area criteria were for all sample analyses. All 3,3'-dichlorobenzidine results for samples reported in SDGs OP01X, OP02X, OP03X, OP05X, and OP07X are qualified as estimated (J/UJ) because %D criteria were not met for continuing calibrations. Di-n-octylphthalate results for samples in SDG OP10X were qualified as estimated (J/UJ) for the same reason.

Most laboratory blank contamination was due to common phthalate esthers, including bis(2-ethylhexyl)phthalate (1-11 ppb) and di-n-butylphthalate (1-9 ppb). Bis(2-ethylhexyl)phthalate was reported in the medium level soil extraction blank for SDG OP10X at 2400 ppb. Phenol was reported in two soil extraction blanks at 97 and 47 ppb.

Field QC blanks reported phthalates, including bis(2-ethylhexyl)phthalate, butylbenzylphthalate, di-n-butylphthalate, and di-n-octylphthalate. The 5X/10X rule was used in qualifying environmental samples based on laboratory and field blank contamination. Overall, the levels of SVOC contamination in laboratory and field QC samples were not significant.

No sample results required qualification based on surrogate recoveries. One or more %R and/or RPD were not met for four MS/MSD pairs. Because no action is taken based on MS/MSD results alone, samples were not qualified due to MS/MSD results.

#### 5.3 TPH - Gasoline Range Organics (GRO) Data Validation

Holding times were met for all TPH-GRO analyses. Results for all samples in SDG OP10X, and most samples in SDG OP11X were qualified as estimated due to elevated sample cooler temperatures at the time of laboratory receipt. One sample result in SDG OP11X (1-MW1-GW2) was rejected because the sample cooler temperature exceeded 20°C at the time of receipt.

All initial and continuing calibrations, and MS/MSD analyses met QC criteria. Gasoline-range TPH was not detected in laboratory or field QC blanks.

Because one or both surrogate recoveries did not meet QC criteria, the following sample results were estimated: 7-SB7 8-8.3, 6-SB17 0.5-2.5, 6-SB17 9.5-9.9,6-SB17 4.5-5.8, and 6-DW1 4.1-4.6.

TPH-GRO analysis quantitation is based on all peaks within a retention time window established by using a gasoline standard. In addition to quantiation, the peaks are evaluated for a pattern similar to the pattern associated with the standard. Laboratory data packages for this project noted that a distinctive gasoline pattern was not observed in all samples reported with detectable purgeable organic material in the gasoline range. Because gasoline results were quantiated using the area of all components from toluene through dodecane, it is possible to report positive results for the presence of gasoline in the sample analysis due to any purgeable organic material that my be present in this range. For this reason, detected TPH-GRO results that have been so noted by the laboratory have been qualified "NJ".

#### 5.4 TPH - Diesel Range Organics (DRO)/Motor Oil Data Validation

All samples were extracted and analyzed within holding times. Initial and continuing calibration criteria were met for all sample analyses, and DRO/motor oil was not detected in laboratory or field QC blanks.

Surrogate recoveries were within laboratory QC limits for all samples except those that required dilution of the sample extract. Surrogate compounds for these samples were diluted out and recoveries were below QC limits. Since surrogates were diluted out to bring the environmental sample concentration within the calibration range, and the results of two surrogate compounds do not necessarily reflect the behavior of the entire class of compounds, results were not qualified based on low surrogate recoveries for diluted samples.

All MS/MSD %R and RPD results were within QC criteria with the exception of one %R and one RPD value. Sample results were not qualified based on MS/MSD results.

Diesel-range TPH results were quantitated using the area of all components from n-C12 to n-C24, and motor oil TPH results were quantitated using the area of all components from n-C24 to n-C40. Laboratory data packages noted that a distinctive diesel and/or motor oil pattern was not observed for all samples reported with detectable organic material for these fractions. Because it is possible to report positive results for the presence of diesel and motor oil in the sample analysis due to any extractable organic material that may be present in these ranges, detected diesel and motor oil results that have been so noted by the laboratory have been qualified "NJ".

#### 5.5 TPH-JP4 Data Validation

All samples were extracted and analyzed within holding times. Initial and continuing calibration criteria were met for all sample analyses, and TPH-JP4 was not detected in laboratory of field QC blanks.

The JP4 result for sample 8-MW3-GW2 was estimated (UJ) due to low surrogate recovery (46%). All other surrogate recoveries were within laboratory QC limits except for samples that required dilution of the extract prior to analysis. The surrogate compound for these samples was diluted out and recoveries were below QC limits. Since the surrogate was diluted out to bring the environmental sample concentration within the calibration range, and the result of one surrogate compound does not necessarily reflect the behavior of the entire class of compounds, results were not qualified based on low surrogate recoveries for diluted samples.

MS/MSD analysis was not performed for TPH-JP4. Because the project WP did not require MS/MSD analysis for TPH fractions, and since data are not qualified based on MS/MSD results alone, no action was taken.

#### 5.6 Metals Data Validation

Holding times were met for all sample analyses. Requirements for instrument calibration, and initial and continuing calibration verification were met for all analyses.

Several metals were frequently detected at low concentrations in associated laboratory preparation and instrument blanks. Detections did not exceed the Contract Required Detection Limit (CRDL), and the 5X rule for blank contamination was following during data validation.

Field QC blanks (field blanks and equipment rinsates) also reported detectable concentrations of several analytes. Because laboratory blanks reported similar levels of contamination and were used to qualify samples according to the 5X rule, no sample results were qualified based on field QC blank results.

Matrix spike %Rs were not within QC limits for several MS analyses. Sample results for selenium and antimony were frequently qualified as estimated (J/UJ) due to low MS recoveries. For SDG OP10X, all results for antimony, arsenic, barium and chromium were estimated based on MS %Rs. Thallium results in SDGs OP05X and OP08X were estimated because %Rs were slightly below OC limits.

All LCS recoveries were within QC limits with the exception of the aqueous LCS for thallium in SDG OP02X. As a result, the thallium result for sample 6-DW1-W1 is estimated.

Laboratory duplicate precision criteria were met for all duplicate analyses with the exception of chromium in SDG OP10X. For this reason, chromium results for all samples in this SDG are estimated.

Inductively Coupled Plasma (ICP) serial dilution criteria were met for all SDGs, except zinc in OP09X (total metals). As a result, the zinc result for sample 1-MW2-GW3 is estimated.

Graphite Furnace Atomic Absorption (GFAA) analytical spike criteria were frequently outside QC limits for arsenic, selenium thallium, and antimony. As a result, affected sample results have been qualified as estimated (J/UJ).

Following data validation, results that were reported with a "B" qualifier by the laboratory, indicating that the reported result was between the Instrument Detection Limit (IDL) and the CRDL, were qualified "J".

### 6.0 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY AND COMPLETENESS (PARCC) PARAMETERS

The quality of chemical data can be determined by reviewing the parameters accuracy, precision, and representativeness. The completeness and comparability parameters also measure data quality, but to a lesser extent. This section discusses the PARCC parameter results for validated environmental samples collected during the RI. PARCC parameter objectives are discussed in Section 5.0 of the Quality Assurance Project Plan (QAPP). The QAPP is included in the RI Work Plan as Appendix B.

#### 6.1 Precision

Precision defines the variability between multiple measurements resulting from the same process. For chemical analyses, precision is determined by analyzing duplicate samples and calculating the relative percent difference (RPD) between results.

#### 6.1.1 Laboratory Precision

Laboratory precision in organic analyses (VOC, SVOC, and TPH) is determined through comparison of MS/MSD samples, and is expressed as RPD between results. The low level Contract Laboratory Program (CLP) method for VOCs in water does not require the analysis of MS/MSD samples, but instead reports the results of an LCS containing twelve of the target VOCs. Because no duplicate analysis is performed, laboratory precision for aqueous VOCs is not determined.

The project WP did not require the analysis of MS/MSD samples for TPH fractions. Because the laboratory did perform MS/MSD analysis for TPH-GRO and TPH-DRO/Oil fractions, laboratory precision was determined for these parameters. The laboratory did not analyze MS/MSD samples for TPH-JP4. Laboratory precision for organic parameters is summarized below.

Parameter	# MS/MSD pairs	RPDs outside criteria	% RPDs within criteria
VOC	Soil - 8	4 of 40	90
SVOC	Soil - 4	1 of 44	97.7
	Water - 4	0 of 44	100
TPH-GRO	Soil - 4	0 of 4	100
	Water - 6	0 of 6	100
TPH-DRO/Oil	Soil - 4	0 of 4	100
	Water - 3	0 of 3	100

Overall laboratory precision for organic parameters (excluding TPH-JP4 and aqueous VOCs) is 96.6%.

Laboratory precision for metals analysis is determined through comparison of unspiked duplicate samples. A total of four laboratory duplicate pairs were analyzed for soil, and six for water. RPD criteria were met for all duplicate analyses, with the exception of chromium for one soil duplicate analysis. A total of 99.3% of laboratory results for metals met duplicate RPD criteria.

Overall, laboratory precision for organic and inorganic analyses shows that 98.0% of MS/MSD and sample duplicate results performed by the laboratory met precision criteria. This meets the overall goal for laboratory precision of 90% specified in the QAPP.

#### 6.1.2 Sampling Precision

Sampling precision is measured through the analysis of field duplicate samples. As is noted in Section 4.4, field duplicate samples were not collected for soils, therefore sampling precision cannot be determined for soil samples collected during the RI. The following groundwater field duplicates were collected:

Sample ID_	Field Duplicate ID
1-MW2-GW2	1-MW2-GW2A
7-MW3-GW2	7-MW3-GW2A
8-MW2-GW2	8-MW2A-GW2
6-MW3-GW2	6-MW3A-GW2

Field duplicate precision for groundwater samples was evaluated using the following acceptance criteria:

- If both results are >5X the CRDL/CRQL, the RPD must be  $\leq$  40.
- If one or both results are <5X the CRDL/CRQL, the difference between the two results must be <2X the CRDL/CRQL.

All field duplicate results met the above criteria for all parameters with the exception of TPH. For field duplicates 6-MW3-GW2 and 6-MW3A-GW2, precision criteria was not met for TPH-Diesel (RPD = 102) and TPH-JP4 (RPD = 107). For field duplicate pairs, 99.6% of the results met precision criteria. Total precision (laboratory precision and sampling precision) for the RI is determined to be 98.8%, which meets the goal of 90% specified in the WP, and indicates that sample results for the RI may be considered precise.

#### 6.2 Accuracy

Accuracy defines how close a measured parameter is to its true value. For organic methods (VOC, SVOC, and TPH), accuracy is evaluated through the analysis of surrogate compounds and select target compounds added to the samples. The accuracy of all target compounds is determined from how well these compounds are recovered. A total of 94.0% of organic MS/MSD, LCS, and surrogate recoveries met the criteria for accuracy specified in the WP. Organic accuracy results are summarized below.

**Accuracy - Organic Parameters** 

Parameter	MS/MSD %Rs outside criteria	Surrogate %Rs outside criteria	Percentage of %Rs and surrogates within criteria
VOC	Soil: 18 of 80	Soil: 3 of 144	Soil: 90.6
	*Water: 0 of 72	Water: 0 of 34	Water: 100
SVOC	Soil: 1 of 88	Soil: 3 of 344	Soil: 99.1
	Water: 20 of 88	Water: 0 of 248	Water: 94.0
TPH-GRO	Soil: 0 of 8	Soil: 7 of 86	Soil: 92.6
	Water: 0 of 12	Water: 0 of 62	Water: 100
TPH-Diesel/Oil	Soil: 1 of 8	Soil: 14 of 86	Soil: 84.0
	Water : 0 of 6	Water: 0 of 62	Water: 100
ТРН-ЈР4	Not applicable	Soil: 6 of 43 Water: 2 of 31	Soil: 86.0 Water: 93.5

MS/MSD analysis is not required for low-level VOCs in water. The percent recoveries reported are for aqueous LCS recoveries.

The majority of aqueous MS/MSD recoveries that were outside QC criteria for SVOC analysis were due to recoveries that slightly exceeded the upper QC limit. These exceedances are probably not due to matrix interferences, but to better laboratory extraction efficiencies than have been established by CLP method QC control limits. The accuracy of aqueous SVOC results should not be affected due to MS/MSD recoveries.

For metals analysis, accuracy is evaluated through the percent recoveries of matrix spikes and LCSs. Nine aqueous, and four solid LCSs were analyzed for metals. Percent recoveries were met for all solid LCSs. For one aqueous LCS, the %R for thallium was slightly below QC limits.

A total of four soil, and six aqueous matrix spike samples were analyzed for metals. Eleven of 56 soil, and six of 84 aqueous spike results did not meet %R criteria. Most of the results that were outside criteria were due to low recoveries of antimony, selenium, and thallium, indicating that reported sample results for these metals may be biased low. Overall, 94.4% of matrix spike and LCS recoveries for metals met the accuracy criteria specified in the WP.

Overall analytical accuracy for all parameters analyzed for the project is 94.2%, which meets the 90% accuracy goal specified in the WP, and indicates that sample results generated for the RI may be considered accurate.

#### 6.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness of the data was ensured by using proper sampling techniques and analytical procedures.

Samples were collected according to procedures specified in the RI WP. To ensure sample integrity, aqueous samples were chemically preserved (if required) at the time of collection. All samples, with the exception of aqueous metals, were maintained at 4±2°C until analyzed. Samples that did not meet temperature preservation requirements were qualified, if necessary, during data validation. Field QC samples, including trip blanks, field blanks, and equipment rinsates, were analyzed to evaluate the possiblity of cross-contamination during sample collection and shipping. Results of field QC samples were evaluated during data validation, and used to qualify environmental samples when required.

Samples were analyzed according to approved USEPA methodology within required holding times. Method blanks or preparation blanks (for organic or inorganic analysis, respectively) were prepared and analyzed at the laboratory along with environmental sampes to provide a means of assessing contamination that may have been introduced during sample preparation and analysis. Results of laboratory blank analyses were used during data validation, and used to qualify environmental sample results when required.

#### 6.4 Comparability

Comparability is a quantitative parameter expressing the confidence with which one data set can be compared to another, and is limited to the other PARCC parameters, because only when precision and accuracy are known, can data be compared with confidence.

Analytical data for the RI were generated according to approved USEPA procedures which specify required processes that will ensure that data of known quality will be generated. The laboratory adhered to these requirements, which include: holding times, GC/MS tuning, initial and continuing calibrations, surrogate recoveries, MS/MSD recoveries, LCS recoveries, method blanks, internal standards, and detection limits.

Standard reference materials, traceable to the National Institute of Standards and Technology (NIST) were used for instrument calibration. In addition, the laboratory successfully analyzed a performance evaluation (PE) sample submitted by Lockheed Martin Energy Systems. As a result, analytical data generated for the RI should be comparable with other measurement data for similar samples and conditions.

#### 6.5 Completeness

Completeness is an evaluation of the percentage of measurements judged to be valid, and is measured following data validation. Data qualified as a result of validation can be considered valid data, but rejected points are not valid. Completeness for the RI was determined as the number of valid data points for environmental samples (including field duplicates) compared to the total number of data points analyzed and reported.

A total of 131 of 9404 environmental sample data points generated for the RI were rejected during data validation. All rejected data points were VOCs in water samples. Eighty-six of these points were results for acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane that were rejected due to low RRFs during GC/MS calibration. The remaining results were rejected due to elevated sample cooler temperatures at the time of receipt at the laboratory.

Of the total environmental data points generated for the RI, 98.6% are valid (useable). This meets the completeness objective of 90% specified in the RI WP.

#### 7.0 OVERALL DATA QUALITY

Environmental samples were collected and analyzed according to the procedures specified in the WP. Holding times were met for all environmental samples for all parameters. All samples that were collected, with the exception of one equipment rinsate, were analyzed and reported by the laboratory. Trip blanks, field blanks, and groundwater field duplicate samples were collected and analyzed at the required frequency. Field duplicates were not collected for soil samples. Four equipment rinsates were collected during soil sampling, resulting in a 12% frequency of collection. Because dedicated sampling equipment was used for groundwater sampling, equipment rinsates were not collected for water samples.

Data limitations include the limited number of ketone (acetone, 2-butanone, and 2-hexanone) and 1,2-dibromo-3-chloropropane results for aqueous samples that were not rejected during validation. Due to the poor purging efficiency for the compounds, and resulting low RRFs, these compounds were rejected.

Overall, the quality of analytical data generated for this project is very good. The percentages of data that met the objectives for accuracy, precision, and completeness specified in the RI WP, exceeded project goals. Therefore, the data generated for this project is sufficient for making decisions regarding any further actions at the IRP sites investigated during the RI.

#### Montana Air National Guard Remedial Investigation

Table D-1

Sample ID	SDG	VOC	SVOC		TPH-Extractable	Total Metals	Dissolved Metals
8-SB6-0.5-2.4	OP01X	X	Х	Х	Х	X	NA
8-SB6-4.5-5.7	OP01X	X	X	Х	X	X	NA
8-SB6-9.5-10.3		X	X	X	Х	X	NA
8-SB7-0.5-2.5	OP01X	X	X	X	X	X	NA
8-SB7-4.5-5.8	OP01X	X	X	X	Х	Х	NA
8-SB7-8.9-10.3	1	X	X	X	X	X	NA
8-SB8-0.5-2.5	OP01X	X	X	X	X	Х	NA
8-SB8-4.5-5.5	OP01X	X	X	X	X	Х	NA
8-SB8-9.5-10.5		X	X	X	X	Х	NA
8-RB1	OP01X	X	X	X	X	X	NA
8-TB1	OP01X	X	NA	NA NA	NA	NA	NA
8-TB2	OP01X	X	NA	NA	NA NA	NA	NA
6-SB15-0.5-2.5		X	X	X	X	X	NA
	OP01X	X	x	X	X	X	NA
6-SB15-2.5-4 6-SB15-7.7-8.1		X	x	X	X	X	NA
6-SB15-7.7-8.1 6-SB17-0.5-2.5		X	X	x	x	X	NA NA
		X	X	X	x	X	NA NA
6-SB17-4.5-5.8		X	X	X	x	x	NA NA
6-SB17-9.5-9.9		X	X	X	X	X	NA NA
6-SB18-0.5-2.5					x	X	NA NA
6-SB18-6.4-7.3		X	X	X	x	x	NA NA
6-SB18-8-8.3	OP01X	X	X	X			NA NA
6-RB1	OP02X	X	X	X	NA NA	X	
6-TB1	OP01X	X	NA	NA	NA	NA	NA NA
6-TB2	OP02X	X	Х	Х	X	X	NA NA
6-DW1-4.1-4.6	OP03X	X	Х	Х	X	Х	NA NA
6-DW1-7.3-7.6	OP03X	Х	Х	Х	X	X	NA NA
7-SB5-1-3	OP03X	X	Х	Х	X	X	NA NA
7-SB1-4.5-5.4	OP03X	X	Х	Х	X	X	NA
7-SB5-8-8.6	OP03X	X	Х	Х	X	X	NA NA
7-SB6-0-2	OP02X	X	Х	Х	X	X	NA
7-SB6-3.5-5.5	OP02X	X	Х	Х	X	Х	NA
7-SB6-7.2-8	OP02X	X	Х	Х	X	Х	NA
7-SB7-1-3	OP02X	X	Х	Х	X	X	NA
7-SB7-3.4-5.2	OP02X	X	Х	Х	X	X	NA
7-SB7-8-8.3	OP02X	Х	X	X	X	X	NA
7-DW1-1.2-3.2	OP02X	X	X	X	X	X	NA
7-DW1-3.2-4.2	OP02X	Х	Х	Х	X	X	NA
7-TB1	OP03X	Х	NA	NA	NA	NA	NA
7-TB2	OP02X	Х	NA	NA	NA	NA	NA
6-DW1-W1	OP02X	Х	Х	Х	X	Х	NA
6-TB3	OP02X	X	NA	NA	NA	NA	NA
7-RB1	OP02X	X	Х	Х	X	Х	NA
7-TB3	OP02X	X	NA	NA	NA	NA	NA
6-SB16-0.9-3.9	OP03X	X	Х	Х	X	Х	NA
6-SB16-3.9-4.5		X	Х	Х	X	Х	NA
6-SB16-8.5-9.5		X	Х	Х	X	Х	NA
8-SB9-1-3	OP03X	Х	Х	X	X	X	NA
8-SB9-4.5-5.5	OP03X	X	Х	X	X	X	NA
8-SB9-8.5-9.4	OP03X		Х	X	X	X	NA
8-SB10-1-3	OP03X		Х	X	X	Х	NA

#### Montana Air National Guard Remedial Investigation

Table D-1

Sample ID	SDG	VOC	svoc		TPH-Extractable	Total Metals	Dissolved Metals
8-SB10-4.5-6.5	OP03X	X	X	Х	X	X	NA
8-SB10-9-9.9	OP03X	X	Х	Х	Х	Х	NA
8-RB2	OP03X	X	Х	Х	X	X	NA
8-TB3	OP03X	Х	NA	NA	NA	NA	NA
8-TB4	OP03X	X	NA	NA	NA	NA	NA
MANG-FB1-DI	OP04X	X	X	X	X	X	NA
MANG-FB2-PW		X	X	X	X	X	NA
FB-TB1	OP04X	X	NA	NA	NA	NA	NA NA
6-MW2-20	OP04X	X	NA	NA	NA NA	NA	NA NA
6-MW3-20.5	OP04X	X	NA	NA	NA NA	NA	NA NA
7-MW2-20.5	OP04X	X	NA	NA	NA NA	NA	NA NA
7-MW4-20.5	OP04X	X	NA	NA	NA NA	NA NA	NA NA
7-MW5-20.5	OP04X	X	NA	NA	NA NA	NA NA	NA NA
7-TBA	OP04X	X	NA	NA	NA NA	NA	NA NA
1-MW2-GW1	OP04X	X	NA	NA NA	NA NA	NA NA	NA NA
7-MW3-GW1	OP04X	X	NA	NA	NA NA		
6-MW1-GW1	OP04X	X	NA			NA	NA NA
6/7-TB1	OP04X	X		NA	NA NA	NA	NA
7-MW4-GW1	OP04X		NA	NA	NA .	NA	NA
7-MW5-GW1		X	X	X	X	X	X
TB-C	OP05X	X	X	X	X	X	X
	OP05X	X	NA	NA	NA	NA	NA
7-MW2-GW1	OP05X	Х	X	X	X	X	X
6-MW2-GW1	OP05X	Х	X	X	X	X	X
TB-B	OP05X	Х	NA	NA	NA	NA	NA
8-MW2-GW1	OP07X	X	X	X	X	X	X
8-MW4-GW1	OP07X	Х	X	X	X	X	Х
TB-D	OP07X	X	NA	NA	NA	NA	NA
6-MW1-GW2	OP07X	X	X	X	X	X	Х
G-MW3-GW1	OP07X	X	X	X	X	X	X
TB-E	OP07X	X	NA	NA	NA	NA	NA
8-MW2-GW1	OP07X	X	X	Х	X	X	Χ
8-MW3-GW1	OP07X	X	X	X	X	X	Χ
TB-F	OP07X	X	NA	NA	NA	NA	NA
7-MW3-GW2	OP07X	X	X	Х	X	X	X
7-MW3-GW2A	OP07X	X	Х	Х	X	X	X
TB-G	OP07X	X	NA	NA	NA	NA	NA
1-MW2-GW2	OP08X	X	X	X	X	X	X
1-MW2-GW2A	OP08X	X	X	Х	X	Х	X
TB-H	OP08X	X	NA	NA	NA	NA	NA
1-MW1-GW1	OP08X	X	X	X	X	Х	X
TB-I	OP08X	X	NA	NA	NA	NA	NA
7-MW5-GW2	OP09X	X	X	X	X	Х	X
TB-B	OP09X	X	NA	NA	NA	NA	NA
1-MW2-GW3	OP09X	X	X	X	X	X	X
7-MW2-GW2	OP09X	X	X	X	X	Χ	X
TB-A	OP09X	X	NA	NA	NA	NA	NA
	OP09X	X	X	X	X	X	X
	OP09X	X	X	X	X	X	X
	OP09X	X	NA	NA	NA	NA	NA
8-MW2-GW2	OP09X	Х	X	Х	X	X	X

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Table D-1

Sample ID	SDG	VOC	SVOC	TPH-GRO	TPH-Extractable	Total Metals	Dissolved Metals
8-MW2A-GW2	OP09X	Х	Х	Х	X	Х	X
TB-E	OP09X	X	NA	NA	NA	NA	NA
8-MW1-GW1	OP09X	Х	Х	Х	Х	Х	X
8-MW3-GW2	OP09X	Х	Х	X	X	X	X
TB-F	OP09X	X	NA	NA	NA	NA	NA
6-MW3-GW2	OP09X	Х	X	Χ	Х	X	X
6-MW3A-GW2	OP09X	X	Χ	X	X	X	X
TB-D	OP09X	Χ	NA	NA	NA	NA	NA
DCPW-1	OP11X	Х	Х	Χ	Х	Х	NA
PADW-1	OP11X	Х	Х	Х	Х	X	NA
TB-I	OP11X	X	NA	NA	NA	NA	NA
FB-DI-GW2	OP11X	Х	X	Х	X	X	NA
FB-PW-GW2	OP11X	Х	Х	Х	Х	Χ	NA
TB-G	OP11X	X	NA	NA	NA	NA	NA
8-MW4-GW2	OP11X	X	Χ	Х	Х	Х	X
7-MW3-GW3	OP11X	X	Х	Х	X	X	Х
TB-J	OP11X	X	NA	NA	NA	NA	NA .
1-MW1-GW2	OP11X	Х	Х	Х	Χ.	Х	Χ
7-MW4-GW2	OP11X	Х	Χ	Х	Х	Х	Х
ТВ-Н	OP11X	X	NA	NA	NA	NA	NA
MANG-SS1-0-1	OP10X	X	Х	Х	X	Х	NA
MANG-SS2-0-1	OP10X	X	Х	Х	X	Х	NA
MANG-SS3-0-1	OP10X	X	Χ	Х	X	X	NA
TB-K	OP10X	X	NA	NA	NA	NA	NA

## APPENDIX E ANALYTICAL DATA SUMMARIES AND VALIDATION

Note: "D" - In addition to the data qualifiers listed and discussed in Appendix D the "D" flag for dilution is defined. When one or more compound in a sample has a response that exceeds the initial calibration range of the instrument for that specific analysis the sample or extract will require dilution and reanalysis. When this occurs, all such compounds on the Form I are required to be flagged with a "D" flag for dilution.

Volatile Organic Compounds						
Site		<b>∞</b>	∞	∞	9	∞
Location						SB8
Sample Depth						9.5-10.5
Cample Number		8.TB2	8-TB1	8-DB1	A.TBI	9 CB9 0 4 10 4
anipic rounded	1000	771-0	101-0	101-0	1011-0	0.01-0.0-000-0
Laboratory sample IL	-	67.17-03	2004//1-17	10-1//+006	7004/38-0/	2004//1-00
Matrix		water	water	Wafer	water	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/26/96	4/25/96
Date Analyzed		9/1/96	2/1/96	\$/1/96	9/1/9	96/7/9
	CROL	11.01		11 ()	11.00	11 0000
	10	0 01	0.01	0.01	0 01	1300 U
Vinyl Chloride	10	10 U	10 U	10 U	10 U	1300 U
Bromomethane	10	10 U	10 U	10 U	10 U	. 1300 U
		10 U	10 U	10 U	10 U	1300 U
thene		10 11	10 11	101	1101	1300 11
***************************************		10 11	1101	7 7	11 01	1 008
the following the second secon	2 9			11 01	191	11 0021
Carbon Disumde	O. 5	0.01		0.0		0 0001
Methylene Chloride	- 01	10 O	10 O	2.3	O 01	17.1
1,1-Dichloroethane	01	10 U	10 U	10 U	10 U	1300 U
2-Butanone	01	10 U	10 U	10 U	10 U	1300 U
Chloroform	01	10 U	10 U	3 J	10 U	1300 U
1,1,1-Trichloroethane	10	10 U	10 U	10 U	10 U	1300 U
	10	10 U	10 U	10 U	10 U	1300 U
	10	10 U	10 U	10 U	10 U	1300 U
oroethane	10	10 O	10 U	10 U	10 U	1300 U
	10	10 O	10 U	10 U	10 U	1300 U
Dane	10	10 O	10 U	10 U	10 U	1300 U
Je Je	10	10 U	10 U	1 J	10 U	1300 U
cis-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	1300 U
	10	10 U	10 U	10 U	10 U	1300 U
	. 01	10 U	10 U	4 J	10 U	420 J
-Dichloropropene	10	10 U	10 U	10 U	10 U	1300 U
1,1,2-Trichloroethane	10	10 U	10 U	10 U	10 O	1300 U
Tetrachloroethene	10	10 U	10 U	10 U	10 O	1300 U
	10	10 U	10 U	10 U	10 U	1300 U
Dibromochloromethane	10	10 U	10 U	10 U	10 U	1300 U
	10	10 U	10 U	10 U	10 U	1300 U
Ethylbenzene	10	10 U	10 U	10 U	10 U	250 J
	10	10 U	10 U	10 U	10 U	1300 U
E	10	10 U	10 U	10 U	10 U	1300 U
achloroethane	10	10 U	10 U	10 U	10 U	1300 U
	10	10 U	10 U	10 U	10 U	86 J
	10	10 U	10 U	10 U	10 U	1900
Total TIC concentration		0	0	0	0	20800
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	
Sample Weight/Volume		5 mL	5 mL	5 mL	5 mľ.	4 0 o Medium level
						(intelligence of the control of the

Volatile Organic Compounds						
Site	_	000	00	00	۵	۰
Location		SB8	80 80 80 80 80 80 80 80 80 80 80 80 80 8	SBS S	. es	SB7
Sample Depth		4.5-5.5	4.5-5.5	4 5.4 \$	5 6-3 0	0 0 10 3
Sample Number		8-SB8-4,5-5.SDL	8-SB8-4.5-5.5	8-SB8-4 5-5.5	8-SB8-0 5-2.5	8-SB7-8 9-10.3
Laboratory Sample ID		9604771-08DL	9604771-08	9604771-08	9604771-07	9604771-02
Matrix		lios	soil	lios	lios	1000
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		96/1/5	4/30/96	Composite Results	4/30/96	2/3/96
Chloromethane		1400 11	11 11	11 11	11 11	11 11
Vinyl Chloride	01	1400 U	n II	n II		
Bromomethane	10	1400 U	D 11	011	D 11	îi ii
Chloroethane	10	1400 U	11 0	0.11	011	11 11
1,1-Dichloroethene	10	1400 U	11 U	11.0	011	n
Acetone	10	910 J	540 J	910 J	140 J	130 J
Carbon Disulfide	10	1400 U	1 J	1.5	1.1	D II
Methylene Chloride	10	90 J	11 U	U II	חות	n II
1,1-Dichloroethane	10	1400 U	11 U	11 U	D 11	ם ב
2-Butanone	10	1400 U	10 J	10 J	23	11 J
Chloroform	10	1400 U	11 U	11 U	11 U	0.11
1,1,1-Trichloroethane	10	1400 U	11 U	11 U	11.0	n H
Carbon Tetrachloride	10	1400 U	11 U	11 U	11 U	D 11
Benzene	10	1400 U	11 U	11 U	11 U	11 U
1,2-Dichloroethane	10	1400 U	UII	11 U	11 U	11 U
Trichloroethene	10	1400 U	U II	11 U	11 U	11 U
1,2-Dichloropropane	10	1400 U	11 U	11 U	11 U	11 U
Bromodichloromethane	10	1400 U	11 U	11 U	11 U	11 U
cis-1,3-Dichloropropene	10	1400 U	11 U	11 U	11 U	11 U
4-Methyl-2-Pentanone	10	1400 U	11 U	11 U	22	11 U
Toluene	10	1400 U	11 U	11 U	11 U	11 U
trans-1,3-Dichloropropene	10	1400 U	U 11 U	11 U	11 U	11 U
1,1,2-Trichloroethane	10	1400 U	11 U	11 U	11 U	11 U
Tetrachloroethene	10	1400 U	11 U	11 U	11 U	11 U
2-Hexanone	10	1400 U	11	. 11	11 J	5 J
Dibromochloromethane	10	1400 U	11 U	11 U	11 U	11 U
Chlorobenzene	2	1400 U	11 U	11 U	11 U	11 U
Ethylbenzene	10	1400 U	11 U	11 U	11 U	11 U
Styrene	10	1400 U	11 U	11 U	11 U	11 U
Bromoform	10	1400 U	11 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	1400 U	11 U	11 U	11 U	11 U
1,2-Dichloroethene (total)	01	1400 U	9 J	1 6	5 J	11 U
Xylene (total)	0	1400 U	1 J	1.5	1.5	1 J
Total TIC concentration		1100	103		97	219
Units (ug/kg) Soil, (ug/L) Water Dilution Factor		1	1		-	-
Sample Weight/Volume		4.0 g (Medium level)	5.0 g	Composite Results	5.08	205
% Moisture		, ex	0 00	000	200	000
	-	,	,	o	71	0

Volatile Organic Compounds					
Site	800	••	80	∞	œ
Location	SB7	SB7	SB7	SB7	SB6
Sample Depth	4.5-5.8	0.5-2.5	0.5-2.5	0.5-2.5	9.5-10.3
Sample Number	8-SB7-4.5-5.8	8-SB7-0.5-2.5DL	8-SB7-0.5-2.5	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID	9604771-03	9604771-04DL	9604771-04	9604771-04	9604771-09
Matrix	soil	soil	soil	soil	soil
Date Sampled	4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed	4/30/96	5/3/96	4/30/96	Composite Results	5/3/96
CROL					
Chloromethane 10	11 U	Ω 99	11 U	11 U	11 U
Vinyl Chloride	11 U	Ω 95	11 U	11 U	U II
Bromomethane 10	11 U	se us	. UII	11 U	11 UI
Chloroethane 10	11 U	56 UJ	11 U	11 U	11 UJ
thene	11 U	26 U	11 U	11 U	11 U
Acetone 10	200 J	950 J	390 J	950 J	130 J
Disulfide	1 J	26 U	1.5	1.1	111 U
g.	11 U	26 U	11 U	11 U	11 U
1.1-Dichloroethane 10	11 U	N 98	11 U	11 U	11 U
2-Butanone 10	11 U	93	12	12	6 J
Chloroform 10	11 U	N 95	11 U	11 U	11 U
1.1.1-Trichloroethane	11 U	N 95	11 U	11 U	U II
	11 U	N 95	11 U	11 U	11 U
Benzene 10	11 U	26 U	11 U	11 U	11 U
loroethane	11 U	26 U	11 U	11 U	11 U
Trichloroethene 10	U II	N 95	11 U	U 11 U	11 U
1,2-Dichloropropane	11 U	26 U	11 U	11 U	11 U
Bromodichloromethane 10	11 U	26 U	11 U	11 U	11 U
cis-1,3-Dichloropropene 10	11 U	26 U	11 U	11 U	11 U
4-Methyl-2-Pentanone	nn	14 J	25	25	11 U
Toluene 10	n n	26 U	11 U	11 U	11 U
trans-1,3-Dichloropropene 10	11 U	26 U	11 U	11 U	11 U
1,1,2-Trichloroethane 10	11 U	26 U	11 U	11 U	11 U
Tetrachloroethene 10	11 U	26 U	11 U	11 U	11 U
2-Hexanone	11 0	18 J	5 J	5 J	4 3
Dibromochloromethane 10	11 U	26 U	11 U	11 U	11 U
Chlorobenzene 10	11 U	26 U	11 U		11 U
Ethylbenzene 10	1 J	26 U	11 U	n u	11 U
Styrene 10	11 U	26 U	11 U	11 U	n n
Bromoform 10	11 U	Ω 95	11 U	n <b>u</b>	11 0
1,1,2,2-Tetrachloroethane	11 U	26 U	11 U	11 U	11 U
1,2-Dichloroethene (total)	11 U	26 U	11 U	11 U	11 U
Xylene (total) 10	4 J	4 J	1 J	1.5	1.5
Total TIC concentration	29	125	46		75
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor	1	-	1		-
Sample Weight/Volume	5.08	1.0 g	5.08	Composite Results	5.08
% Moisture	6	10	10	10	∞

Volatile Organic Compounds					
Site	~	00	V	•	•
Location	SB6	SBS.	SERIS	0 910	0 0,00
Sample Denth	4 5-5 7	500	8100	5118	SB18
Sample Number	1.5-C.F	4.3-2.9	8-8.5	8-8.3	8-8.3
I shoute of the	8-5B0-4.3-3./	8-2130-0.3-2.4	6-SB18-8-8.3DL	6-SB18-8-8.3	6-SB18-8-8.3
Laboratory Sample ID	9604771-10	9604771-11	9604798-03DL	9604798-03	9604798-03
Matrix	lios	soil	soil	lios	lios
Date Sampled	4/25/96	4/25/96	4/26/96	4/26/96	4/26/96
Date Analyzed	4/30/96	2/3/96	\$/2/96	4/30/96	Composite Results
Chloromethane					e and a second
		27 U	1400 U	11 UI	11 UJ
	0 11	7/ O	1400 U	11 UJ	11 UJ
<u>o</u>	1110	27 UJ	1400 U	11 UJ	11 UJ
	11 0	27 UJ	1400 U	11 UJ	11 UJ
1,1-Dichloroethene 10	11 U	27 U	1400 U	11 UJ	111111
Acetone 10	0.4 U	610 J	2100 J	1300.1	1 0016
Carbon Disulfide 10	1.5	27 U	1400 11	1 6	5 2017
Methylene Chloride 10	11 11	27 11	1400 11	11111	6.7
1,1-Dichloroethane	1111	2 12	1400 11		
2-Butanone	1 6	33	0 0041	50 11	II O
		23	1400 0	75 J	25 J
	011	27.0	1400 U	. 110	11 UJ
	0 11	27 U	1400 U	11 UJ	11 13
etrachloride	11 U	27 U	1400 U	11 03	11 UJ
	11 0	27 U	1400 U	11 U	11 UJ
ine	11 U	27 U	1400 U	11 U	11 UJ
	11 U	27 U	1400 U	11 UJ	11 UJ
	11 U	27 U	1400 U	11 UJ	11 UJ
	11 U	27 U	1400 U	11 UJ	11 UJ
9	11 U	27 U	1400 U	11 UJ	11 UJ
-2-Pentanone	11 U	27 U	1400 U	11 UJ	11 UJ
	11 U	27 U	1400 U	11 UJ	11 UJ
pene	11 U	27 U	1400 U	11 UJ	11 UJ
ane	1 J	27 U	1400 U	11 UJ	11 13
thene	11 U	27 U	1400 U	11 UJ	11 UJ
	11 U	2 J	1400 U	11 UJ	11 13
methane	11 U	27 U	1400 U	11 UJ	11 UJ
ū	11 U	27 U	1400 U	11 UJ	11 UJ
zene	11 U	27 U	1400 U	11 UJ	11 10
	11.0	27 U	1400 U	11 UJ	10 11
	11 U	27 U	1400 U	11 UJ	11 UJ
	11 U	27 U	1400 U	11 UJ	11 03
thene (total)	חוו	27 U	1400 U	11 UJ	11 11
Xylene (total) 10	1110	2 J	1400 U	111 111	11111
Total TIC concentration	0	72	19230	1810	
Units (ug/kg) Soil, (ug/L) Water					1
Dilution Factor	-		1	Т	
Sample Weight/Volume	5.08	2.0 g	4.0 g (Medium level)	5.0 g	Composite Result
% Moisture	6	6	6	6	6

Volatile Organic Compounds					
Site	9	9	9	9	9
Location	SB18	SB18	SB18	SB18	SB15
Sample Depth	6.4-7.3	6.4-7.3	6.4-7.3	0.5-2.5	7.7-8.1
Sample Number	6-SB18-6.4-7.3DL	6-SB18-6.4-7.3	6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1DL
Laboratory Sample ID	9604798-02DL	9604798-02	9604798-02	9604798-01	9604798-06DL
Matrix	lios	lios	lios	lios	lios
Date Sampled	4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed	96/L/S	4/30/96	Composite Result	4/30/96	96/L/5
Chloromethane	1300 []	11 U	11 U	U 11	1400 U
		n II	0 11	011	1400 U
	1300 U	DIII	0.11	11 U	1400 U
	1300 U	D II	n II	D 11	1400 U
thene	1300 U	מוו	0.11	11 U	1400 U
	2600 J	2000 J	2600 J	Ω 59	1300 J
Disulfide	1300 U	2 J	2 J	1.5	1400 U
Methylene Chloride 10	1300 U	11 U	11 U	11 U	1400 U
1,1-Dichloroethane 10	1300 U	11 U	11 U	11 U	1400 U
2-Butanone	1300 U	5 J	5 J	1 6	1400 U
Chloroform 10	1300 U	11 U	11 U	11 U	1400 U
1,1,1-Trichloroethane	1300 U	U II U	11 U	11 U	1400 U
Carbon Tetrachloride 10	1300 U	U II U	11 U	11 U	1400 U
Benzene 10	1300 U	11 U	11 U	11 U	1400 U
1,2-Dichloroethane	1300 U	11 U	11 U	11 U	1400 U
Trichloroethene 10	1300 U	11 U	11 U	11 U	1400 U
1,2-Dichloropropane 10		11 U	11 U	11 U	1400 U
Bromodichloromethane 10		11 U	11 U	11 U	1400 U
cis-1,3-Dichloropropene 10		11 U	11 U	11 U	1400 U
4-Methyl-2-Pentanone	-	11 U	11 U	11 U	1400 U
		11 U	11 U	11 U	1400 U
trans-1,3-Dichloropropene 10		11 U	11 U	11 U	1400 U
1,1,2-Trichloroethane		11 U	11 U	11 U	1400 U
Tetrachloroethene 10		11 U	11 U	11 U	1400 U
2-Hexanone		11 U	11 U	4 J	1400 U
Dibromochloromethane 10		11 U	11 U	11 U	1400 U
Chlorobenzene 10		U II	11 U	חוו	1400 U
Ethylbenzene 10		n II	11 0	n n	1400 U
Styrene 10		11 U	11 U	11 U	1400 U
Bromoform 10		11 U	11 U	11 U	1400 U
1,1,2,2-Tetrachloroethane 10		11 U	11 U	11 U	1400 U
	1300 U	11 U	11 U	11 U	1400 U
Xylene (total)		11 U	U 11	11 U	1400 U
Total TIC concentration	5770	2005		37	0
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor	1	1		1	1
Sample Weight/Volume	4.0 g (Medium level)	5.0 g	Composite Result	5.08	4.0 g (Medium level)
% Moisture	7	7	7	10	<b>x</b>

Volatile Organic Compounds					
Site	-	•	`	•	
	0	0	٥	9	9
Location	SB15	SB15	SB15	SB15	SB15
Sample Depth	7.7-8.1	7.7-8.1	2.5-4	0.5-2.5	0.5-2.5
Sample Number	6-SB15-7.7-8.1	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5DI.	6-SB15-0 5-7
Laboratory Sample ID	9604798-06	9604798-06	9604798-05	9604798-04DI.	9604798-04
Matrix	lios	los	Soil	lios	lios
Date Sampled	4/26/96	4/26/96	4/26/96	4/26/96	96/9C/ <b>P</b>
Date Analyzed	4/30/96	Composite Result	4/30/96	96/L/S	96/8/5
CRQL	7				
Chloromethane 10	11 UJ	11 UJ	11 U	1400 U	198
	11 01	11 UJ	11 U	1400 U	11 98
Bromomethane 10	11 03	11 UJ	11 U	1400 U	111 95
Chloroethane 10	11 UJ	11 UJ	11 U	1400 U	111 95
1,1-Dichloroethene 10	11 UI	11 03	011	1400 11	52 25
Acetone 10	1000 J	1300 J	180 I	1400 11	1 0091
Carbon Disulfide 10	2.1	2.1	11 11	1400 11	5 0001
Methylene Chloride 10	nII			1400 11	0.96
1,1-Dichloroethane 10	In II	11111	11 11	1400 11	0.00
	7.1	1.1	) i	1400 11	2000
	111 111	111 111	11 11	0 8041	L 04
oroethane				0.0041	00 00
			); :	1400 U	3e U
		5 11		1400 U	26 U
		10 II	0 11	1400 U	26 U
	I I	11 01	11 U	1400 U	26 U
	11 UJ	11 UJ	11 U	1400 U	26 U
	11 UI	11 UJ	11 U	. 1400 U	26 U
	11 UJ	11 UI	11 U	1400 U	\$6 U
<u> </u>	II II	11 UI	11 U	1400 U	26 U
-2-Pentanone	11 03	11 UJ	11 U	1400 U	26 U
	11 UJ	11 UJ	11 U	1400 U	26 U
bene	11 UJ	11 UJ	11 U	1400 U	56 U
ane	11 UJ	11 UJ	11 U	1400 U	26 U
thene	11 UJ	11 UJ	11 U	1400 U	56 U
	11 UJ	11 01	4 J	1400 U	26 U
methane	11 UJ	11 UJ	11 U	1400 U	56 U
<u>u</u>	11 UJ	11 UJ	11 U	1400 U	26 U
Zene	11 01	11 UJ	11 U	1400 U	2 J
	11 UJ	11 UI	11 U	1400 U	26 U
	11 UJ	11 UI	11 U	1400 U	56 U
	11 UJ	11 UJ	11 U	1400 U	\$6 U
thene (total)	11 UJ	11 UJ	11 U	1400 U	56 U
Xylene (total) 10	11 UJ	11 UJ	11 U	1400 U	5 J
Total TIC concentration	1143		0	0	0
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor	1		1	1	1
Sample Weight/Volume	5.08	Composite Result	5.0 g	4.0 (Medium level)	1.0 g
% Moisture	**	<b>∞</b>	6	10	10

Volatile Organic Compounds		
Site	9	
Location	SB15	
Sample Depth	0.5-2.5	
Sample Number	6-SB15-0.5-2.5	
Laboratory Sample ID	9604798-04	
Matrix	lios	
Date Sampled	4/26/96	
Date Analyzed	Composite Result	
CRQL		
Chloromethane 10	Ω99	
Vinyl Chloride	N 95	
	\$6 UJ	
Chloroethane 10	\$6 UJ	
1,1-Dichloroethene 10	N 95	
Acetone 10	1600 J	
Carbon Disulfide 10	N 98 U	
Methylene Chloride 10	N 98	
	26 U	
2-Butanone	43.3	
Chloroform 10	26 U	
proethane	26 U	
Carbon Tetrachloride 10	n 98	
Benzene 10	26 U	
oroethane	N 98	
	26 U	
1,2-Dichloropropane 10	2 <b>9</b> 0	
ne	Ω 99	
cis-1,3-Dichloropropene 10	26 U	
4-Methyl-2-Pentanone	26 U	
	26 U	
sene	26 U	
ane	26 U	
hene	26 U	
	26 U	
Dibromochloromethane 10	26 U	
Chlorobenzene 10	26 U	
Ethylbenzene 10	2 J	
	26 U	
Bromoform 10	26 U	
1,1,2,2-Tetrachloroethane 10	1 99 n	
1,2-Dichloroethene (total)	Ω 99	
	5.3	
Total TIC concentration		
Units (ug/kg) Soil, (ug/L) Water		
Dilution Factor		
Sample Weight/Volume	Composite Result	
% Moisture	10	

Semivolatile Organic Compounds					
Site	80	∞	œ	00	00
Location	SB8	SB8	SB8	SB7	SB7
Sample Depth	9.5-10.5	4.5-5.5	0.5-2.5	8.9-10.3	4 5-5 8
Sample Number	8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5	8-SB7-8.9-10.3	8-SB7-4 5-5 8
Laboratory Sample ID	9604771-06	9604771-08	9604771-07	9604771-02	9604771-03
Matrix	lios	lios	lios	lios	lios
Date Sampled	4/25/96	4/25/96	4/25/96	4/25/96	76/2/74
Date Analyzed	5/13/96	5/13/96	5/13/96	5/14/96	5/17/5
CROL					
bis(2-Chloroethy1)ether 330	0 1400 U	360 U	760 U	360 U	370 U
	0 1400 U	360 U	760 U	360 U	370 U
	0 1400 U	360 U	160 U	360 U	370 U.
		360 U	760 U	360 U	370 U
	0 1400 U	360 U	760 U	360 U	370 U
		360 U	760 U	360 U	370 U
loropropane)		360 U	760 U	360 U	370 U
		360 U	160 U	360 U	370 U
		360 U	760 U	360 U	370 U
propylamine	0 1400 U	360 U	760 U	360 U	370 U
loi	0 1400 U	360 U	760 U	360 U	370 U
5		360 U	760 U	360 U	370 U
	0 1400 U	360 U	760 U	360 U	370 U
	0 1400 U	360 U	160 U	360 U	370 U
	0 1400 U	360 U	760 U	360 U	370 U
methane		360 U	760 U	360 U	370 U
		360 U	160 U	360 U	370 U
robenzene		360 U	760 U	360 U	370 U
		360 U	760 U	360 U	370 U
		360 U	O 092	360 U	370 U
		340 U	760 U	360 U	370 U
loua		360 U	760 U	360 U	370 U
		360 U	760 U	360 U	370 U
diene		360 U	160 U	360 U	370 U
		360 U	760 U	360 U	370 U
-		010 U	1900 U	910 U	920 U
thalene		360 U	760 U	360 U	370 U
		910 U	1900 U	D 016	920 U
		360 U	760 U	O 09E	370 U
	_	360 U	760 U	O 09E	370 U
iene		360 U	100 D	360 U	370 U
		360 U	160 U	360 U	370 U
	***	910 U	U 000I	910 U	920 U
lon		910 U	1900 U	D 016	920 U
		360 U	O 092	360 U	370 U
iene		360 U	O 091	360 U	370 U
cnol		910 U	1900 U	U 010	920 U
Fluorene 330	1400 U	360 U	760 U	360 U	370 U

Semivolatile Organic Compounds	-					
Site		∞	00	00	œ	∞
Location		SB8	SB8	SB8	SB7	SB7
Sample Depth		9.5-10.5	4.5-5.5	0.5-2.5	8.9-10.3	4.5-5.8
Sample Number		8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5	8-SB7-8.9-10.3	8-SB7-4.5-5.8
Laboratory Sample ID		9604771-06	9604771-08	9604771-07	9604771-02	9604771-03
Matrix		lios	lios	lios	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/13/96	5/13/96	5/13/96	5/14/96	5/14/96
	CRQL					
4-Chlorophenyl-phenylether	330	1400 U	360 U	U 097	360 U	370 U
Diethylphthalate	330	1400 U	360 U	760 U	360 U	370 U
4-Nitroaniline	800	3600 U	910 U	1900 U	910 U	. 920 U
4,6-Dinitro-2-methylphenol	800	3600 U	910 U	1900 U	910 U	920 U
n-Nitrosodiphenylamine	330	1400 U	360 U	760 U	360 U	370 U
4-Bromophenyl-phenylether	330	1400 U	360 U	160 U	360 U	370 U
Hexachlorobenzene	330	1400 U	360 U	160 U	360 U	370 U
Pentachlorophenol	800	3600 U	910 U	1900 U	910 U	920 U
Phenanthrene	330	1400 U	360 U	760 U	360 U	370 U
Anthracene	330	1400 U	360 U	760 U	360 U	370 U
Carbazole	330	1400 U	360 U	760 U	360 U	370 U
Di-n-butylphthalate	330	26 J	360 U	17 J	360 U	370 U
Fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Pyrene	330	1400 U	360 U	760 U	360 U	370 U
Butylbenzylphthalate	330	1400 U	360 U	760 U	360 U	370 U
3,3'-Dichlorobenzidine	330	1400 UJ	360 UJ	10 09L	360 UJ	370 UJ
Benzo[a]anthracene	330	1400 U	360 U	100 D	360 U	370 U
Chrysene	330	1400 U	360 U	760 U	360 U	370 U
bis(2-Ethylhexyl)phthalate	330	100 J	360 U	086	1061	370 U
Di-n-octylphthalate	330	1400 U	360 U	160 U	14 J	370 U
Benzo[b]fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Benzo[k]fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Benzo[a]pyrene	330	1400 U	360 U	760 U	360 U	370 U
Indeno[1,2,3-cd]pyrene	330	1400 U	360 U	160 U	360 U	370 U
Dibenz[a,h]anthracene	330	1400 U	360 U	160 U	360 U	370 U
Benzofg,h,i]perylene	330	1400 U	360 U	100 U	360 U	370 U
Total TIC concentration		257300	621	700	929	721
Units (ug/kg) Soil, (ug/L) Water	ng/kg					•
Dilution Factor		4	1	2	1	1
Sample Weight/Volume		30.0 g	30 g	30.0 g	30.0 g	30.08
% Moisture	_	7	∞	12	<b>30</b>	ה

Semivolatile Organic Compounds						
Site		<b>\$</b>	∞	•	00	v
Location		SB7	SB6	SB6	SB6	SB18
Sample Depth		0.5-2.5	9.5-10.3	4.5-5.7	0.5-2.4	8-8.3
Sample Number		8-SB7-0.5-2.5	8-SB6-9.5-10.3	8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8 3
Laboratory Sample ID		9604771-04	9604771-09	9604771-10	9604771-11	9604798-03
Matrix		gos	soil	lios	ios	Lios
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/26/96
Date Analyzed	- 2000	5/21/96	5/13/96	2/13/96	5/14/96	96/51/5
his/2-Chloroethy/lather	CKQL 330	11 000				
Dhanal	330	0.0001	360 U	370 U	730 U	730 U
2-Chlorockeen!	330	1500 U	360 U	370 U	730 U	730 U
1.3 Post long	330	1500 U	360 U	370 U	730 U	730 U
1,3-Dichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
1,4-Lichiorobenzene	330	1500 U	360 U	370 U	730 U	730 U
1,2-Dichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
2,2'-oxybis(1-chloropropane)	330	1500 U	360 U	370 U	730 U	730 U
z-Methylphenol	330	1500 U	360 U	370 U	730 U	730 U
Hexachloroethane	330	1500 U	360 U	370 U	730 U	730 U
N-Nitroso-di-n-propylamine	330	1500 U	360 U	370 U	730 U	730 U
4-Methylphenol	330	1500 U	360 U	370 U	730 U	730 U
Nitrobenzene	330	1500 U	360 U	370 U	730 U	730 11
Isophorone	330	1500 U	360 U	370 U	730 U	730 11
2-Nitrophenol	330	1500 U	360 U	370 U	730 U	730 11
2,4-Dimethylphenol	330	1500 U	360 U	370 U	730 U	730 11
bis(2-Chloroethoxy)methane	330	1500 U	360 U	370 U	13 052	730 11
2,4-Dichlorophenol	330	1500 U	360 U	370 U	730 U	730 11
1,2,4-Trichlorobenzene	330	1500 U	360 U	370 U	730 U	730 11
Naphthalene	330	1500 U	360 U	370 U	730 U	730 11
4-Chloroaniline	330	1500 U	360 U	370 U	730 11	730 11
Hexachlorobutadiene	330	1500 U	360 U	370 U	730 11	730 17
4-Chloro-3-methylphenol	330	1500 U	360 U	370 U	730 11	730 11
2-Methylnaphthalene	330	1500 U	360 U	370 U	730 U	730 11
Hexachlorocyclopentadiene	330	1500 U	360 U	370 U	730 U	730 11
2,4,6-Trichlorophenol	330	1500 U	360 U	370 U	730 U	730 11
2,4,5-Trichlorophenol	008	3700 U	D 016	920 U	1800 U	1800 U
2-Chloronaphthalene	330	1500 U	360 U	370 U	730 U	730 U
2-Nitroaniine	008	3700 U	O 016	920 U	1800 U	1800 U
Acenaphthylene	330	1500 U	360 U	370 U	730 U	730 U
Dunethylphthalate	330	1500 U	360 U	370 U	730 U	730 U
2,6-Dinitrotoluene	330	1500 U	360 U	370 U	730 U	730 U
Acenaphthene	330	1500 U	360 U	370 U	730 U	730 U
3-Nitroanline	008	3700 U	910 U	920 U	1800 U	1800 U
2,4-Dinitrophenol	008	3700 U	910 U	920 U	1800 U	U 0081
Lybenzofuran	330	1500 U	360 U	370 U	730 U	730 U
2,4-Dmitrotoluene	330	1500 U	360 U	370 U	730 U	730 U
4-Nitrophenol	800	3700 U	910 U	920 U	1800 U	1800 U
Fluorene	330	1500 U	360 U	370 U	730 U	730 U

Semivolatile Organic Compounds	•					
Site		00	œ	œ	90	9
Location		SB7	SB6	SB6	SB6	SB18
Sample Depth		0.5-2.5	9.5-10.3	4.5-5.7	0.5-2.4	8-8.3
Sample Number		8-SB7-0.5-2.5	8-SB6-9.5-10.3	8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3
Laboratory Sample ID		9604771-04	9604771-09	9604771-10	9604771-11	9604798-03
Matrix	-	lios	lios	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/26/96
Date Analyzed		5/21/96	5/13/96	5/13/96	5/14/96	5/15/96
	CRQL					
4-Chlorophenyl-phenylether	330	1500 U	360 U	370 U	730 U	730 U
Diethylphthalate	330	1500 U	360 U	370 U	730 U	730 U
4-Nitroaniline	800	3700 U	910 U	920 U	1800 U	1800 U
4.6-Dinitro-2-methylphenol	800	3700 U	910 U	920 U	1800 U	1800 U
n-Nitrosodiphenylamine	330	1500 U	360 U	370 U	730 U	730 U
4-Bromophenyl-phenylether	330	1500 U	360 U	370 U	730 U	730 U
Hexachlorobenzene	330	1500 U	360 U	370 U	. 730 U	730 U
Pentachlorophenol	800	3700 U	910 U	920 U	U 0081	1800 U
Phenanthrenc	330	1500 U	360 U	370 U	730 U	730 U
Anthracene	330	1500 U	360 U	370 U	730 U	730 U
Carbazole	330	1500 U	360 U	370 U	730 U	730 U
Di-n-butylphthalate	330	1500 U	360 U	370 U	730 U	730 U
Fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Pyrene	330	1500 U	360 U	370 U	730 U	730 U
Butylbenzylphthalate	330	1500 U	360 U	370 U	730 U	730 U
3,3'-Dichlorobenzidine	330	1500 UJ	360 UJ	370 UJ	730 UJ	730 UJ
Benzo[a]anthracene	330	1500 U	360 U	370 U	730 U	730 U
Chrysene	330	1500 U	360 U	370 U	730 U	730 U
bis(2-Ethylhexyl)phthalate	330	1 96 I	140 J	370 U	55 J	51 J
Di-n-octylphthalate	330	1500 U	12 J	370 U	730 U	730 U
Benzo[b]fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[k]fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[a]pyrene	330	1500 U	360 U	370 U	730 U	730 U
Indeno[1,2,3-cd]pyrene	330	1500 U	360 U	370 U	730 U	730 U
Dibenz[a,h]anthracene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[g,h,i]perylene	330	1500 U	360 U	370 U	730 U	730 U
Total TIC concentration		3480	499	431	1460	14930
Units (ug/kg) Soil, (ug/L) Water	ug/kg		•	•	,	•
Dilution Factor	•	4	1	1	7	7
Sample Weight/Volume		30.08	30.0g	30.0g	30.0 g	30.08
% Moisture	_	10	»c	5	2	۸

Semivolatile Organic Compounds						
Site		9	9	9	vo	v
Location		SB18	SB18	SB15	SB15	SB15
Sample Depth		6.4-7.3	0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2 5-4	6-9B14-0 4-2 4
Laboratory Sample ID		9604798-02	9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	ios	100	120
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/14/96	5/14/96	5/14/96	5/14/96	96/51/8
	CRQL			)		OCICTIC
bis(2-Chloroethyl)ether	330	360 U	740 U	360 U	370 U	370 U
Phenol	330	360 U	740 U	360 U	370 U	1 0/E
2-Chlorophenol	330	360 U	740 U	360 U	370 U	370 U
1,3-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
1,4-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
1,2-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
2,2'-oxybis(1-chloropropane)	330	360 U	740 U	360 U	370 U	370 U
2-Methylphenol	330	360 U	740 U	360 U	370 U	370 U
Hexachloroethane	330	360 U	740 U	360 U	370 U	370 U
N-Nitroso-di-n-propylamine	330	360 U	740 U	360 U	370 U	370 U
4-Methylphenol	330	360 U	740 U	360 U	370 U	370 U
Nitrobenzene	330	360 U	740 U	360 U	370 U	370 U
Isophorone	330	360 U	740 U	360 U	370 U	370 U
2-Nitrophenol	330	360 U	740 U	360 U	370 U	370 U
2,4-Dimethylphenol	330	360 U	740 U	360 U	370 U	370 U
bis(2-Chloroethoxy)methane	330	360 U	740 U	360 U	370 U	370 U
2,4-Dichlorophenol	330	360 U	740 U	360 U	370 U	370 U
1,2,4-Trichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
Naphthalenc	330	360 U	740 U	360 U	370 U	370 U
4-Chloroaniline	330	360 U	740 U	360 U	370 U	370 U
Hexachlorobutadiene	330	360 U	740 U	360 U	370 U	370 U
4-Chloro-3-methylphenol	330	360 U	740 U	360 U	370 U	370 U
2-Methylnaphthalene	330	360 U	740 U	360 U	370 U	370 U
Hexachlorocyclopentadiene	330	360 U	740 U	360 U	370 U	370 U
2,4,6-Inchlorophenol	330	360 U	740 U	360 U	370 U	370 U
2,4,5-Trichlorophenol	008	O 006	1900 U	910 U	920 U	930 U
2-Chloronaphthalene	330	360 U	740 U	360 U	370 U	370 U
2-Nitroaniline	008	D 006	1900 U	910 U	920 U	930 U
Acenaphthylene	330	360 U	740 U	360 U	370 U	370 U
Dimethylphthalate	330	360 U	740 U	360 U	370 U	370 U
2,6-Dinitrotoluene	330	360 U	740 U	360 U	370 U	370 U
Acenaphthene	330	360 U	740 U	360 U	370 U	370 U
3-Nitroaniline	008	D 006	1900 U	U 016	920 U	930 U
2,4-Dinitrophenol	008	D 006	1900 U	910 U	920 U	930 U
Dibenzofuran	330	360 U	740 U	360 U	370 U	370 U
2,4-Dinitrotoluene	330	360 U	740 U	360 U	370 U	370 U
4-Nitrophenol	008	D 006	1900 U	D 016	920 U	930 U
Fluorene	330	360 U	740 U	360 U	370 U	370 U

Semivolatile Organic Compounds		>		· <del>-</del>		,
Site	•	9	9	9	9 ^	10
Location		SB18	SB18	SB15	SB15	SB15
Sample Depth		6.4-7.3	0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-02	9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	lios	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/14/96	5/14/96	5/14/96	5/14/96	5/15/96
	CRQL					
4-Chlorophenyl-phenylether	330	360 U	740 U	360 U	370 U	370 U
Diethylphthalate	330	360 U	740 U	360 U	370 U	370 U
4-Nitroaniline	800	n 006	U 0061	010 U	920 U	D 086
4,6-Dinitro-2-methylphenol	800	D 006	U 0061	910 U	920 U	930 U
n-Nitrosodiphenylamine	330	360 U	740 U	360 U	370 U	370 U
4-Bromophenyl-phenylether	330	360 U	740 U	360 U	370 U	370 U
Hexachlorobenzene	330	360 U	740 U	360 U	370 U	370 U
Pentachlorophenol	800	D 006	D 0061	910 U	920 U	930 U
Phenanthrene	330	360 U	740 U	360 U	370 U	370 U
Anthracene	330	360 U	740 U	360 U	370 U	370 U
Carbazole	330	360 U	740 U	360 U	370 U	370 U
Di-n-butylphthalate	330	360 U	740 U	360 U	370 U	370 U
Fluoranthene	330	360 U	740 U	360 U	370 U	370 U
Pyrene	330	360 U	740 U	360 U	370 U	370 U
Butylbenzylphthalate	330	360 U	740 U	360 U	370 U	370 U
3,3'-Dichlorobenzidine	330	360 UJ	740 UJ	360 UI	370 UJ	370 UJ
Benzo[a]anthracene	330	360 U	740 U	360 U	370 U	370 U
Chrysene	330	360 U	740 U	360 U	370 U	370 U
bis(2-Ethylhexyl)phthalate	330	90 J	59 J	58 J	370 U	370 U
Di-n-octylphthalate	330	360 U	740 U	360 U	370 U	370 U
Benzo[b]fluoranthene	330	360 U	740 U	360 U	370 U	370 U
Benzo[k]fluoranthene	330	360 U	740 U	360 U	370 U	. 370 U
Benzo[a]pyrene	330	360 U	740 U	360 U	370 U	370 U
Indeno[1,2,3-cd]pyrene	330	360 U	740 U	360 U	370 U	370 U
Dibenz[a,h]anthracene	330	360 U	740 U	360 U	370 U	370 U
Benzo[g,h,i]perylene	330	360 U	740 U	360 U	370 U	370 U
Total TIC concentration		0966	400	15140	578	926
Units (ug/kg) Soil, (ug/L) Water	ng/kg				,	•
Dilution Factor	Y	1	2	1	1	-
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		7	01	∞	6	10

Semivolatile Organic Compounds		
Site		∞
Location		
Sample Depth		
Sample Number		8-881
Laboratory Sample ID		9604771-01
Matrix		Waler
Date Sampled		4/25/96
Date Analyzed		96/8/5
	CRQL	
uloroethyl)ether	330	10 U
	330	10 U
2-Chlorophenol 3	330	10 U
1,3-Dichlorobenzene	330	D 01
	330	. n oi
	330	n 01
ropane)	330	n 01
	330	11 01
Ų	330	01 01
povlamine	330	10 11
	330	10 17
	330	1 0I
	330	11 01
10	330	0.01
henol	330	11 01
nethane	330	0.01
	330	10 U
ene	330	10 U
	330	10 U
4-Chloroaniline 3	330	10 U
Hexachlorobutadiene 3	330	10 U
4-Chloro-3-methylphenol	330	10 U
2-Methylnaphthalene 3	330	10 U
Hexachlorocyclopentadiene 3.	330	10 U
	330	10 U
2,4,5-Trichlorophenol 8	800	25 U
2-Chloronaphthalene 3:	330	10 U
2-Nitroaniline	800	25 U
Acenaphthylene 3:	330	10 0.1
Dimethylphthalate 3	330	10 U
2,6-Dinitrotoluene 33	330	10 U
	330	10 U
	908	25 U
nol	008	25 U
	330	10 U
tene	330	10 U
4-Nitrophenol 8	008	25 U
	330	10 U

Semivolatile Organic Compounds		
Site		00
Location		
Sample Depth		
Sample Number		8-RB1
Laboratory Sample ID		9604771-01
Matrix		water
Date Sampled		4/25/96
Date Analyzed		5/8/96
	CRQL	
4-Chlorophenyl-phenylether	330	10 U
Diethylphthalate	330	10 U
4-Nitroaniline	008	25 U
4,6-Dinitro-2-methylphenol	008	25 U
n-Nitrosodiphenylamine	330	Ω 61
4-Bromophenyl-phenylether	330	10 U
Hexachlorobenzene	330	10 U
Pentachlorophenol	008	25 U
Phenanthrene	330	10 U
Anthracene	330	10 U
Carbazole	330	10 U
Di-n-butylphthalate	330	1 BJ
Fluoranthene	330	10 U
Pyrene	330	10 U
Butylbenzylphthalate	330	10 U
3,3'-Dichlorobenzidine	330	10 U
Benzo[a]anthracene	330	10 U
Chrysene	330	10 U
bis(2-Ethylhexyl)phthalate	330	2 BJ
Di-n-octylphthalate	330	10 U
Benzo[b]fluoranthene	330	10 U
Benzo[k]fluoranthene	330	10 U
Benzo[a]pyrene	330	10 U
Indeno[1,2,3-cd]pyrene	330	10 U
Dibenz[a,h]anthracene	330	10 U
Benzo[g,h,i]perylene	330	10 U
Total TIC concentration		18
Units (ug/kg) Soil, (ug/L) Water	ug/kg	
Dilution Factor		_
Sample Weight/Volume		1000 mL
% Moisture	-	100

Inorganics					
Site		∞	∞	∞	000
Location			SB8	SB8	SB8
Sample Depth			9.5-10.5	4.5-5.5	0.5-2.5
Sample Number		8-RB1	8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5
Laboratory Sample ID		9604771-01	9604771-06	9604771-08	9604771-07
Matrix		water	lios	lios	lios
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
	CRDL				
Antimony	9 *	s uw	0.87 UJ	UJ 16:0	0.86 UJ
Arsenic	10	1 U	3.5	4	10.5
Barium	200	4 U	160	89.5	186
Beryllium	*	0.3 U	0.45 J	0.29 J	0.62 J
Cadmium	s	2 U	0.36 U	0.32 U	0.48 J
Chromium	10	Ω9	10.7	7.4	13.2
Copper	25	4 U	12.7	11.4	34
Lead	3	1 U	7.4	6.5	15
Mercury	0.2	0.2 U	0.07 U	0.11 U	0.11 U
Nickel	40	SU	8.5	6	12.5
Selenium	\$	1 U	0.17 UJ	0.18 UJ	0.86 UJ
Silver	10	3 U	0.54 U	0.48 U	0.54 U
Thallium	* 2	2 U	0.42	0.36 U	0.35 U
Zinc	20	12.7 B	53.9	42.3	683
Units (mg/kg) Soil, (ug/L) Water	ng/L				
% Solids			92.6	91.6	87.6
* Project-specific CRDL					)

Inorganics					
Site		<b>∞</b>	∞	∞	∞
Location		SB7	SB7	SB7	SB6
Sample Depth		8.9-10.3	4.5-5.8	0.5-2.5	9.5-10.3
Sample Number		8-SB7-8.9-10.3	8-SB7-4.5-5.8	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID		9604771-02	9604771-03	9604771-04	9604771-09
Matrix		soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
	CRDL				
Antimony	9 *	0.85 UJ	IN 98:0	0.81 UJ	UN 181
Arsenic	10	3.3	2.5	7.6	3.3
Barium	200	141	96.1	436	128
Beryllium	*	0.43 J	0.29 J	0.45 J	0.3 J
Cadmium	<b>~</b>	0.34 U	0.38 U	0.35 U	0.32 U
Chromium	10	13.2	8.3	12.1	12.7
Copper	25	13.3	10	26.7	11.1
Lead	8	7.7	6.2	16.6	7.9
Mercury	0.2	0.1 U	0.11 U	0.1 U	0.11 U
Nickel	40	9.1	<b>∞</b> .∞	10.6	11
Selenium	2	0.37 J	0.17 UJ	0.16 UJ	0.28 J
Silver	10	0.51 U	0.58 U	0.52 U	0.48 U
Thallium	* 2	0.34 U	0.34 U	0.33 U	0.35 U
Zinc	20	55.3	41.7	137	44.8
Units (mg/kg) Soil, (ug/L) Water	ng/L				
% Solids		92.2	91.4	9.68	7.16
* Project-specific CRDL					

Inorganics				
Site	∞	000	ν.	v
Location	SB6	SB6	SB18	SB18
Sample Depth	4.5-5.7	0.5-2.4	000	6.4-73
Sample Number	8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3	6-SB18-64-7.3
Laboratory Sample ID	9604771-10	9604771-11	9604798-03	9604798-02
Matrix	lios	lios	soil	lios
Date Sampled	4/25/96	4/25/96	4/26/96	4/26/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96
CRDL	OL			
Antimony *	tD 68.0	0.83 UJ	0.92 UJ	1 UJ
Arsenic 10		8.6	3.7	5.7
Barium 200		358	306	248
Beryllium * 4	4 0.26 J	0.52 J	0.24 J	0.27 J
Cadmium 5	0.37 U	0.33 U	0.36 U	0.38 U
Chromium 10	7.8	15.3	12.9	8.6
Copper	11	37.4	9.6	32.7
		8.1	5.1	6.9
Mercury 0.2		0.08 U	0.11 U	0.07 U
Nickel 40	8.6	11.9	8.9	8.7
ur		0.83 UJ	0.18 UJ	0.21 UJ
Silver 10		0.49 U	0.55 U	U 257 U
Thallium * 2		0.33 U	0.37 U	0.41 U
Zinc 20		52.7	33.2	52.3
Units (mg/kg) Soil, (ug/L) Water ug/L	7			
% Solids	91	91.1	906	929
* Project-specific CRDL				

# OPO1.XLS

Inorganics					
Site		9	9	9	9
Location		SB18	SB15	SB15	SB15
Sample Depth		0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-01	9604798-06	9604798-05	9604798-04
Matrix		lios	lios	lios	lios
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
	CRDL				
Antimony	9 *	0.88 UJ	0.85 UJ	tD 6:0	US 50.0
Arsenic	10	5.9	5.2 J	2.7	5.4
Barium	200	258	145	116	468
Beryllium	* 4	0.46 J	0.23 J	0.25 J	0.28 J
Cadmium	s	0.37 U	0.35 U	0.36 U	0.38 U
Chromium	10	10.5	11	7 U	11.3
Copper	25	16.9	6.6	13.7	17.1
Lead	٣	8.7	\$	6.3	5.8
Mercury	0.2	0.11	0.1 U	0.11 U	0.11 U
Nickel	40	11.3	8.4	8.2	8.9
Selenium	2	0.18 UJ	0.17 UJ	0.18 UJ	U 61.0
Silver	10	0.55 U	0.53 U	0.54 U	0.56 U
Thallium	* 2	0.42	0.34 U	0.36 U	0.38 U
Zinc	20	49.4	40.2	47.9	36.6
Units (mg/kg) Soil, (ug/L) Water	1/8n				
% Solids		90.3	92.2	91.3	89.5
* Project-specific CRDL	_				

JP4, Gas, Diesel, Oil	,				
Site		∞	8	∞	<b>∞</b>
Location			SB8	SB8	SB8
Sample Depth			9.5-10.5	4.5-5.5	0.5-2.5
Sample Number		8-RB1	8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5
Laboratory Sample ID		9604771-01	9604771-06	9604771-08	9604771-07
Matrix		water	lios	lios	lios
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/8-10/96	5/7-9/96	96/6-9/5	9/6-9/5
	* RL				
JP-4	10	0.25 U	240	11 U	11 0
Gasoline range	8	0.25 U	340	5.4 U	5.7 U
Diesel range, as diesel	10	0.25 U	260 NJ	11 U	n II
Oil range, as oil	100	UI	1200	110 U	11011
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		100	7	•	12
* RL - Reporting Limit					:

JP4, Gas, Diesel, Oil Site		•	•	∞	•
Sire		2 60	Ĉ B3	200	5
Location		/gc	/ge	/ge	ge
Sample Depth		8.9-10.3	4.5-5.8	0.5-2.5	9.5-10.3
Sample Number		8-SB7-8.9-10.3	8-SB7-4.5-5.8	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID		9604771-02	9604771-03	9604771-04	9604771-09
Matrix		lios	soil	soil	lios
Date Sampled	•	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		96/8-9/5	96/6-9/9	96/6-1/9	2/6-9/5
	* RL				
JP-4	10	11 U	11 U	11 U	11 U
Gasoline range	~	5.4 U	5.5 U	5.6 U	. 5.
Diesel range, as diesel	10	11 U	11 U	55 NJ	11 U
Oil range, as oil	100	110 U	110 U	1700	110
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		∞	6	10	•
* RL - Reporting Limit					

Jr4, Gas, Diesel, Oil Site		9	9	9	
Location		SBI8	SBIS	SBIS	
Sample Depth		0.5-2.5	7.7-8.1	2.5-4	
Sample Number		6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	
Laboratory Sample ID		9604798-01	9604798-06	9604798-05	
Matrix		soil	lios	soil	
Date Sampled		4/26/96	4/26/96	4/26/96	
Date Analyzed		96/6-9/9	96/6-L/5	96/6-1/9	
	* RL				
JP-4	10	11 U	56	U II	
Gasoline range	8	5.6 U	290	5.5 U	
Diesel range, as diesel	10	U 11 U	79	11 U	
Oil range, as oil	100	110 U	110 U	110 U	
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		10	∞	6	
* RL - Reporting Limit					

Volatile Organic Compounds					
Site	7	7	7	9	9
Location					•
Sample Depth					
Sample Number	7-TB3	7-TB2	7-RB1	6-TB3	6-TB2
Laboratory Sample ID	9604821-02	9604821-11	9604821-01	9604821-13	9604799-05
Matrix	water	water	water	water	water
Date Sampled	4/29/96	4/27/96	4/29/96	4/28/96	4/26/96
Date Analyzed	5/2/96	96/7/5	96/2/5	9/2/5	96/1/9
3	**	11 (		***	** **
	0.01	001	0.01	0.01	0.01
Vinyl Chloride	D 01	10 0	10 0	0.01	0.01
Bromomethane 10	10 U				
Chloroethane 10	10 U				
1,1-Dichloroethene 10	10 U				
Acetone 10	10 U	2 J	7 J	1.3	4 J
Carbon Disulfide 10	10 U				
Methylene Chloride 10	1.1	1 J	10 U	10 U	1 J
	10 U				
2-Butanone	10 U				
	10 U				
proethane	10 01	10 U	10 U	10 U	10 U
	10 01	10 U	10 U	10 U	10 U
	U 01	D 61	10 D	10 01	10 U
oroethane	10 01	10 01	10 U	10 U	10 U
	U 01	U 01	10 01	10 01	10 U
nane	D 01	0.01	U 01	U 01	D 01
9	10 D	D 01	U 01	10 01	10 U
	11 01	11 01	1101	11 01	11 01
	U 01	D 61	.n oi	10 OI	U 01
	U 01	10 01	U 01	10 OI	10 U
-Dichloropropene	10 01	10 U	10 01	1000	10 U
	10 U				
	10 U				
2-Hexanone	10 U				
Dibromochloromethane 10	10 U				
Chiorobenzene 10	10 U				
Ethylbenzene 10	10 U				
Styrene 10	10 U				
Bromoform 10	10 U				
1,1,2,2-Tetrachloroethane 10	10 U				
1,2-Dichloroethene (total)	10 U				
Xylene (total)	10 U				
Total TIC concentration	0	0	13	0	0
Units (ug/kg) Soil, (ug/L) water					
Dilution Factor	1	1	1	1	
Sample Weight/Volume	5.0 mL				
% Moisture	100	100	100	100	100

Volatile Organic Compounds							
Site		9	7	7	7	7	
Location			SB7	SB7	SB7	SB7	
Sample Depth			8-8.3	3.4-5.2	3.4-5.2	3.4-5.2	
Sample Number		6-RB1	7-SB7-8-8.3	7-SB7-3.4-5.2DL	7-SB7-3.4-5.2	7-SB7-3,4-5.2	
Laboratory Sample ID		9604799-01	9604821-08	9604821-07DL	9604821-07	9604821-07	
Matrix		water	lios	soil	soil	lios	
Date Sampled		4/26/96	4/27/96	4/27/96	4/27/96	4/21/96	
Date Analyzed	_	5/1/96	2/2/96	5/1/96	\$/3/96	Composite results	
	CROL						
Chloromethane	10	10 U	1400 U	1400 U	11 UJ	tu ui	_
Vinyl Chloride	10	10 U	1400 U	1400 U	11 U	11 U	
Bromomethane	10	10 U	1400 U	1400 U	11 UJ	11 U	_
Chloroethane	10	10 U	1400 U	1400 U	11 U	U II	
1,1-Dichloroethene	10	10 U	1400 U	1400 U	11 U	11 U	
Acetone	10	£ 80	1700	1800	f 006	1800	
Carbon Disulfide	10	10 U	1400 U	1400 U	11 U	11 U	
Methylene Chloride	10	1.1	1400 U	1400 U	11 U	11 U	
1,1-Dichloroethane	10	10 U	1400 U	1400 U	11 U	11 U	
2-Butanone	10	10 U	1400 U	1400 U	5 J	5 J	
Chloroform	10	2 J	1400 U	1400 U	11 U	11 U	
1,1,1-Trichloroethane	10	10 U	1400 U	1400 U	11 U	11 U	
Carbon Tetrachloride	10	10 U	1400 U	1400 U	11 U	11 U	
Benzene	10	10 U	1400 U	1400 U	11 U	11 U	
1,2-Dichloroethane	10	10 U	1400 U	1400 U	11 U	11 U	
Trichloroethene	10	10 U	1400 U	1400 U	11 U		
1,2-Dichloropropane	10	10 U	1400 U	1400 U	11 U		
Bromodichloromethane	10	10 U	1400 U	1400 U	11 U	11 U	
cis-1,3-Dichloropropene	10	10 U	1400 U	1400 U	11 U	11 U	
4-Methyl-2-Pentanone	10	10 U	1400 U	1400 U	11 U	11 U	
Toluene	10	2.5	140 J	1400 U	11 U	11 U	
trans-1,3-Dichloropropene	10	10 U	1400 U	1400 U	11 U	11 U	
1,1,2-Trichloroethane	10	10 U	1400 U	1400 U	11 U	11 U	
I etrachloroethene	10	10 U	1400 U	1400 U	11 U	11 U	
2-Hexanone	10	10 U	1400 U	1400 U	11 U	11 U	
Dibromochloromethane	01	10 U	1400 U	1400 U	11 U	11 U	
Chlorobenzene	01	10 U	1400 U	1400 U	11 U	11 U	
Ethylbenzene	10	10 U	180 J	1400 U	11 U	11 U	
Styrene		10 U	1400 U	1400 U	11 U	11 U	
Bromoform	10	10 U	1400 U	1400 U	11 U	11 U	
1, 1, 2, 2-Tetrachloroethane	10	10 U	1400 U	1400 U	U II	11 U	
1,2-Dichloroethene (total)	10	10 U	1400 U	1400 U	11 U	11 0	
Xylene (total)	10	10 U	1500	1400 U	11 U	11 U	
Total TIC concentration		0	31090	0	6		
Units (ug/kg) Soil, (ug/L) water							
Dilution Factor		1	1	1	1		
Sample Weight Volume		5.0 mL	4.0 g (Medium level)	4.0 g (Medium level)	5.0 g C	Composite results	
70 INDISTINC	_	100	×	6	6	6	

Volatile Organic Compounds			1	•	
Site	7	1	1	7	1
Location	SB7	SB7	SB7	SB6	SB6
Sample Depth	7-SB7-1-3	7-SB7-1-3	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number	7-SB7-1-3DL	7-SB7-1-3	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5
Laboratory Sample ID	9604821-06DL	9604821-06	9604821-06	9604821-05	9604821-04
Matrix	lios	lios	soil	soil	soil
Date Sampled	4/21/96	4/21/96	4/21/96	4/27/96	4/27/96
	96/1/5	96/8/9	Composite results	\$/2/96	9/3/96
Chloromothus 10	11 0091	12 111	12 UJ	1600 U	11 UJ
	1600 11	12 U	12 U	1600 U	11 U
	1600 U	12 UJ	12 UJ	1600 U	11 UJ
	D 0091	12 U	12 U	1600 U	11 U
thene	1600 U	12 U	12 U	1600 U	11 U
	1400 J	1200 J	1400 J	1400 J	130
Carbon Disulfide 10	1600 U	2.3	2 J	1600 U	11 U.
Methylene Chloride	1600 U	12 U	12 U	1600 U	11 U
1.1-Dichloroethane 10	1600 U	12 U	12 U	1600 U	11 U
2-Butanone 10	1600 U	12 J	12 J	1600 U	5 J
Chloroform 10	1600 U	12 U	12 U	1600 U	1.1
1,1,1-Trichloroethane	1600 U	12 U	12 U	1600 U	11 U
Carbon Tetrachloride 10	1600 U	12 U	12 U	1600 U	11 U
Benzene 10	1600 U	12 U	12 U	1600 U	11 U
1,2-Dichloroethane 10	1600 U	12 U	12 U	1600 U	11 U
Trichloroethene 10	1600 U	12 U	12 U	1600 U	n n
pane	1600 U	12 U	12 U	1600 U	11 U
ne	1600 U	12 U	12 U	1600 U	D 11
cis-1,3-Dichloropropene 10	1600 U	12 U	12 U	1600 U	011
4-Methyl-2-Pentanone	1600 U	12 U	12 U	1600 U	חוו
	1600 U	12 U	12 U	1100 J	11 0
trans-1,3-Dichloropropene 10	1600 U		12 U	1600 U	
1,1,2-Trichloroethane 10	1600 U		12 U	1600 U	0 11
Tetrachloroethene 10	1600 U		12 U	1600 U	OH
2-Hexanone 10	1600 U		12 U	1600 U	0 11
Dibromochloromethane 10			12 U	1600 U	0 11
Chlorobenzene 10			12 U	1600 U	0::
Ethylbenzene 10		12 U	12 U	5000	0 11
Styrene 10		12 U	12 U	1600 U	011
ш		12 U	12 U	1600 U	011
1,1,2,2-Tetrachloroethane 10		12 U	12 U	1600 U	0 11
1,2-Dichloroethene (total)	1600 U	12 U	12 U	1600 U	11 U
Xylene (total) 10	1600 U	12 U	12 U	3300	11 U
Total TIC concentration	0	91		76500	7
Units (ug/kg) Soil, (ug/L) water				•	•
Dilution Factor		1			
Sample Weight/Volume	4.0 g (Medium level)	5.0 g	Composite results	4.0 g (Medium level)	<b>3</b> 00°
% Moisture	50	20	20	71	10

Volatile Organic Compounds						
Site		7	7	1	7	٢
Location		SB6	SB6	SB6	iwd	DW
Sample Depth		0-2	0-2	0-5	3.7.4.2	27.7
Sample Number		7-SB6-0-2DL	7-SB6-0-2	7.SB6.0.2	7-DW1-2 2 4 2DI	2.4-2.6
Laboratory Sample ID	-	9604821-03DL	9604821-03	9604821-03	1001-128-1W-7	7-DWI-3.2-4.2
Matrix		soil	lius	licos.	1701-1721-007	01-1791-006
Date Sampled		4/27/96	4/27/96	30/TC/A	105 107 107 107	nos
Date Analyzed		96/2/5	20/2/3	06/17/4	4/2//96	4/21/96
	CRQL		Delete	Composite resuits	96/1/8	5/3/96
Chloromethane	10	1400 U	111 111	11 11	110011	b
Vinyl Chloride	10	1400 13		60 11	1400 U	5 1 3
Bromomethane	10	1400 11	211		1400 U	011
Chloroethane	01	1400 11	fo II		1400 U	11 CI
1.1-Dichloroethene	10	1400 1			1400 U	11 U
Acetone	2 2	1 018	0 11	11 0	1400 U	n II
Carbon Disulfide	2 01	1400 11	11 11	f 018	820 J	f 009
Methylene Chloride	2 2	1400 11		0::	1400 U	1.5
1.1-Dichloroethane	2 2	1400 C	01:	011	1400 U	11 U
2-Butanone	2 2	0 0041	) i	0 11	1400 U	11 U
Chloroform	2 2	1400 U	f 9	6 J	1400 U	15
1 1 1-Two-blocombane	0 9	1400 U	0 11	11 U	1400 U	1 1
Carbon Tetrachicals	01 5	1400 U	11 U	11 U	1400 U	11 U
Carbon Tetrachionde	0 ;	1400 U	11 U	11 U	1400 U	11 U
Benzene	10	1400 U	11 U	11 U	1400 U	11 U
1,2-Dichloroethane	10	1400 U	11 U	11 U	1400 U	11 U
Inchloroethene	01	1400 U	11 U	11 U	1400 U	חוו
1,2-Dichloropropane	10	1400 U	11 U	11 U	1400 U	D 11
Bromodichloromethane	10	1400 U	11 U	0.11	1400 U	חוו
cis-1,3-Dichloropropene	10	1400 U	11 0	11 U	1400 U	D 11
4-Methyl-2-Pentanone	10	1400 U	11 U	11 U	1400 U	19
Ioluene	01	1400 U	11 U	11 U	1400 U	11 U
trans-1,3-Dichloropropene	01	1400 U	11 U	11 U	1400 U	11 U
1,1,2-1 richloroethane	10	1400 U	11 U	11 U	1400 U	11 U
I ctrachloroethene	01	1400 U	11 U	11 U	1400 U	11 U
2-Hexanone	10	1400 U	1.3	1.3	1400 U	17
Dibromochloromethane	10	1400 U	11 U	11 U	1400 U	0.11
Chlorobenzene	10	1400 U	11 U	11 U	1400 U	0.11
Ethylbenzene	10	1400 U	11 U	11 U	1400 U	
Styrene	10	1400 U	11 U	11 U	1400 11	11 11
Bromoform	10	1400 U	11 U	11 U	1400 11	
1,1,2,2-Tetrachloroethane	10	1400 U	11 U	D 11	1400 11	
1,2-Dichloroethene (total)	10	1400 U	11 U	0.11	1400 11	
Xylene (total)	10	1400 U	11 U	11 U	1400 11	: : : : : : : : : : : : : : : : : : :
Total TIC concentration		0	0		0	) (F
Units (ug/kg) Soil, (ug/L) water						AC.
Dilution Factor			1		1	1
Sample weight volume	-	4.0 g (Medium level)	5.0 g	Composite results	4.0 g (Medium level)	5.0 g
TATORICE CO.	_	77	12	12	13	13

Volatile Organic Compounds			;		,
Site	7	_	7	1	٥
Location	DWI	DW1	DWI	DW1	SB17
County Death	3.2-4.2	1.2-3.2	1.2-3.2	1.2-3.2	9.5-9.9
Sample Deput	7.Du/1-2-2-4-2	7.DW1-1 2-3 JU	7-DW1-1 2-3 2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Sample Number	2.4-2.6-1.4-7	1000 100000	06.14821.00	9604821-09	9604799-04
Laboratory Sample ID	01-1794006	7760-1784000	ios lios	100	lios
Matrix	Nos	NOS CONTRACTOR OF THE PROPERTY	HOS SOLECY A	20/LC/V	30/3C/V
Date Sampled	4/21/96	96/17/4	96/17/4	06/17/4	00000
Date Analyzed	Composite results	96/L/S	96/9/5	Composite results	96/7/6
Chloromethane 10	11 UI	1500 U	12 U	12 U	1300 U
	0.11	1500 U	12 U	12 U	1300 U
	II OI	1500 U	12 U	12 U	1300 U
	nII	1500 U	12 U	12 U	1300 U
, in	110	1500 U	12 U	12 U	1300 U
	820 J	820 J	590 J	820 J	1300 U
Jien [fide	7 -	1500 U	12 U	12 U	1300 U
	0.11	1500 U	12 U	12 U	1300 U
	0.11	1500 U	12 U	12 U	1300 U
	15	1500 U	2 J	2 J	1300 U
Chloroform	1 J	1500 U	12 U	12 U	1300 U
1 1 1-Trichloroethane 10	11 U	1500 U	12 U	12 U	1300 U
	11 U	1500 U	12 U	12 U	1300 U
	11 U	1500 U	12 U	12 U	1300 U
oroethane	11 U	1500 U	12 U	12 U	1300 U
	11 U	1500 U	12 U	12 U	1300 U
nane	11 U	1500 U	12 U	12 U	1300 U
90	11 U	1500 U	12 U	12 U	1300 U
	11 0	1500 U	12 U	12 U	1300 U
4-Methyl-2-Pentanone	19	1500 U	12 U	12 U	1300 U
Toluene 10	11 U	1500 U	12 U	12 U	5100
-Dichloropropene	11 U	1500 U	12 U	12 U	1300 U
	11 U	1500 U	12 U	12 U	1300 U
Tetrachloroethene 10	11 0	1500 U	12 U	12 U	1300 U
	7 3	1500 U	12 U	12 U	1300 U
Dibromochloromethane 10	11 U	1500 U	12 U	12 U	1300 U
Chlorobenzene 10	11 U	1500 U	12 U	12 U	1300 U
Ethylbenzene 10	11 U	1500 U	12 U	12 U	1200 J
Styrene 10	11 U	1500 U	12 U	12 U	1300 U
Bromoform 10	11 U	1500 U	12 U	12 U	1300 U
achloroethane	11 U	1500 U	12 U	12 U	1300 U
	11 U	1500 U	12 U	12 U	1300 U
Xylene (fotal) 10	11 U	1500 U	12 U	12 U	8100
Total TIC concentration		0	23		1406000
Units (ug/kg) Soil, (ug/L) water					
Dilution Factor		-	1		
Sample Weight/Volume	Composite results	4.0 g (Medium level)	5.0g	Composite resuits	4.0 g (Medium level)
% Moisture	13	18	18	97	

	9	SB17 SB17	4.5-5.8 0.5-2.5	6-SB17-4.5-5.8 6-SB17-0.5-2.5	9604799-03	soil	4/26/96 4/26/96	5/2/96		1400 U 1300 U	1400 U 1300 U			1400 U 1300 U	1800 I 300 U	1400 U 1300 U	1400 U 1300 U	1400 U 1300 U	1400 U 1300 U						1400 U 1300 U	1400 U 1300 U	1400 U 1300 U		D	-		1400 U 1300 U	1400 11				130 J 440 J	2	2		-
Volatile Organic Compounds		Location	Sample Depth		lory Sample ID	Matrix	Date Sampled	Date Analyzed	CRQL			Bromomethane 10	Chloroethane 10	1,1-Dichloroethene		Carbon Disulfide 10		1,1-Dichloroethane	2-Butanone 10	Chloroform 10	1,1,1-Trichloroethane 10	Carbon Tetrachloride 10	Benzene 10	ıne				cis-1,3-Lichloropropene 10		Tollustic 10 10			romethane	Ethylbenzene 10	Styrene 10		thene (total)	Xylene (total) 10	Total TIC concentration	Units (ug/kg) Soil, (ug/L) water	Dilution Factor

Low Level Volatile Organic Compounds	
Site	v
Location	DWI
Sample Depth	
Sample Number	6-DW1-W1
Laboratory Sample ID	9604821-12
Matrix	water
Date Sampled	4/28/96
Date Analyzed	9/10/96
chloromethane	50 UJ
vinyl chloride	n 05
bromomethane	30 U
chloroethane	SO U
1,1-dichloroethene	20 U
acetone	х
carbon disulfide	20 U
methylene chloride 2	23 J
trans-1,2-Dichloroethene	20 U
1,1-dichloroethane	50 U
cis-1,2-Dichloroethene	50 U
2-butanone 5	R
bromochloromethane 1	50 U
chloroform	19 J
1,2-Dichloroethane	20 U
1,1,1-trichloroethane	50 U
carbon tetrachloride	50 U
benzene	50 U
trichloroethene 1	06
1,2-dichloropropane	50 U
bromodichloromethane 1	50 U
cis-1,3-dichloropropene	20 U
4-methyl-2-pentanone	250 U
toluene	220
trans-1,3-dichloropropene	50 U
1,1,2-trichloroethane	50 U
tetrachloroethene 1	50 U
2-hexanone 5	5.5 J
dibromochloromethane 1	50 U
1,2-dibromoethane	50 U
chlorobenzene	50 U
ethylbenzene 1	7.5 J
styrene	50 U
1,1,2,2-Tetrachloroethane	50 U

•	9	DW1		6-DWI-WI	9604821-12	water	4/28/96	5/10/96		50 U	50 U	50 U	50 U	50 U	52	6100		50	
- commodi									CRQL		-	-	-	-	-		ng/L		
Cita	one	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		bromoform	1,3-dichlorobenzene	1,4-dichlorobenzene	1,2-dichlorobenzene	1,2-dibromo-3-chloropropane	Xylene (total)	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Sample Weight/Volume

Semivolatile Organic Compounds	-	t	•	•	٢	>,
Site			٥			- 4
Location				DWI	SB/	38/
Sample Depth					8-8.3	3.4-5.2
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3	7-SB7-3.4-5.2
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08	9604821-07
Matrix		water	water	water	soil	lios
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96	4/27/96
Date Analyzed		2/10/96	96/8/5	\$/22/96	96/6/5	96/6/5
	CRQL				11 000	11 010
bis(2-Chloroethyl)ether	330	10 01	0.01	200 0	0.07/	3/0 0
Phenol	330	10 U	10 U	200 U	720 U	370 U
2-Chlorophenol	330	10 U	10 U	200 U	720 U	370 U
1,3-Dichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
1.4-Dichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
1 2-Dichlorohenzene	330	10 U	10 U	200 U	720 U	370 U
2 2'-oxyhis/1-chloropropane)	330	10 U	. 10 U	200 U	720 U	370 U
2-Methylphenol	330	10 U	10 U	200 U	720 U	370 U
Hevachloroethane	330	D 01	10 U	200 U	720 U	370 U
N-Mirror diamentamine	330	10 U	10 U	200 U	720 U	370 U
4 Mathedahanol	330	11 01	101	74 J	720 U	370 U
Michaelio	330	11 01	11 01	200 U	720 U	370 U
I I I ODENIZENE	330	11 01	11 01	200 11	720 U	370 U
Isophorone	330	1101	11 01	200	720 U	370 U
z-Nitrophenol	330		201	11 000	11 022	370 11
2,4-Dimethylphenol	330	0.01		2002	11 062	370 11
bis(2-Chloroethoxy)methane	330	) o o	001	0.002	0.027	370 11
2,4-Dichlorophenol	330	10 O	001	0.007	0 02/	0.0/6
1, 2, 4-Trichlorobenzene	330	10 U	10 0	200 0	0.07/	3/0 0
Naphthalene	330	10 U	D 01	200 U	7300	3/0 0
4-Chloroaniline	330	10 U	10 U	200 U	720 U	370 U
Hexachlorobutadiene	330	10 U	10 U	200 U	720 U	370 U
4-Chloro-3-methylphenol	330	10 U	10 U	200 U	720 U	370 U
2-Methylnaphthalene	330	10 U	10 U	48 J	3700	370 U
Hexachlorocyclopentadiene	330	10 U	10 U	200 U	720 U	370 U
2,4,6-Trichlorophenol	330	10 U	10 U	200 U	720 U	370 U
2,4,5-Trichlorophenol	800	25 U	25 U	200 U	1800 U	920 U
2-Chloronaphthalene	330	10 U	10 U	200 U	720 U	370 U
2-Nitroaniline	800	25 U	25 U	200 U	1800 U	920 U
Acenaphthylene	330	10 U	10 U	200 U	720 U	370 U
Dimethylphthalate	330	10 U	10 U	200 U	720 U	370 U
2 6-Dinitrotolitene	330	10 U	10 U	200 U	720 U	370 U
Acenaphthene	330	10 U	10 U	200 U	720 U	370 U
3-Nitroaniline	800	25 U	25 U	200 U	1800 U	920 U
2 4-Dinitronhenol	800	25 U	25 U	200 U	1800 U	920 U
Dihenzofuran	330	10 U	10 U	200 U	720 U	370 U
2 4-Dinitrotolnene	330	10 U	10 U	200 U	720 U	370 U
4-Nitronhenol	008	25 U	25 U	S00 U	1800 U	920 U
Elizabeth Chicago	330	11 01	U 01	200 U	63 J	370 U
rinofens	-	) }	j 1			

Semivolatile Organic Commounds					`	
Site	_	1	v	4	>*	•
Location			,	200	- 65	7 1
Sample Depth				i i	5B/ 8-83	34.63
Sample Number		7-RB1	6-RB1	6-DWI-WI	7-SB7-8-83	3.4-3.2 7-887-3-4-5-2
Laboratory Sample ID	-	9604821-01	9604799-01	9604821-12	9604821-08	9604821-07
Matrix		water	water	Water	ios ios	lios
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96	96/20/7
Date Analyzed		9/10/96	96/8/5	5/22/96	5/9/96	96/6/5
	CROL					
4-Chlorophenyl-phenylether	330	10 U	10 U	200 U	720 U	370 11
Diethylphthalate	330	10 U	10 U	200 U	720 U	370 11
4-Nitroaniline	008	25 U	25 U	500 U	U 0081	11 026
4,6-Dinitro-2-methylphenol	008	25 U	25 U	500 U	1800 U	920 17
n-Nitrosodiphenylamine	330	10 U	10 U	200 U	720 U	370 11
4-Bromophenyl-phenylether	330	10 O	10 U	200 U	720 U	370 U
Hexachlorobenzene	330	10 U	10 U	200 U	720 U	370 U
Pentachlorophenol	008	25 U	25 U	500 U	1800 U	920 U
Phenanthrene	330	10 U	10 U	200 U	I 071	370 U
Anthracene	330	10 U	10 U	200 U	720 U	370 U
Carbazole	330	10 U	10 U	200 U	720 U	370 U
Di-n-butylphthalate	330	10 U	1 BJ	30 J	720 U	370 U
Fluoranthene	330	10 U	10 U	200 U	720 U	370 U
Pyrene	330	10 U	10 U	200 U	720 U	370 U
Butylbenzylphthalate	330	1.5	10 U	35 J	720 U	370 U
3,3'-Dichlorobenzidine	330	10 U	10 U	200 UJ	720 U	370 U
Benzo[a]anthracene	330	10 U	10 U	200 U	720 U	370 U
Chrysene	330	10 U	10 U	200 U	720 U	370 U
bis(2-Ethylhexyl)phthalate	330	21 B	2 BJ	140 J	200 J	140 J
Di-n-octylphthalate	330	2 J	10 U	200 U	720 U	370 U
Benzo[b]Iluoranthene	330	10 U	10 U	200 U	720 U	370 U
Benzo[k]Iluoranthene	330	10 U	10 U	200 U	720 U	370 U
Benzo[a]pyrene	330	10 U	10 U	200 U	720 U	370 U
Indeno[1,2,3-cd]pyrene	330	10 U	10 U	200 U	720 U	370 U
Dibenz[a,h]anthracene	330	10 U	10 U	200 U	720 U	370 U
Benzolg, h, 1]perylene	330	10 U	10 U	200 U	720 U	370 U
I otal 11C concentration		18	20	15960	63740	1014
Units (ug/kg) Soil, (ug/L) Water Dilution Factor	ug/kg	•				
Cample Weight/Column			1	20	2	
Sample weight volume		1000 mL	1000 mL	1000 mL	30.0 g	30.0 g
A INTOISEMENT	_	100	100	100	<b>0</b> 0	6

Semivolatile Organic Compounds				1	•	•
Site		7	1	1	1	,
Location		SB7	SB6	SB6	SB6	DW1
Sample Depth		7-SB7-1-3	7.2-8	3.5-5.5	0-2	3.2-4.2
Sample Number		7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5	7-SB6-0-2	7-DW1-3.2-4.2
Laboratory Sample ID		9604821-06	9604821-05	9604821-04	9604821-03	9604821-10
Matrix	-	soil	soil	fios	soil	lios
Date Sampled	-	4/27/96	4/27/96	4/27/96	4/27/96	4/27/96
-		96/6/\$	96/6/5	96/6/\$	96/6/9	5/21/96
	CRQL					
bis(2-Chloroethyl)ether	330	420 U	840 U	370 U	760 U	770 U
Phenol	330	420 U	840 U	370 U	760 U	770 U
2-Chlorophenol	330	420 U	840 U	370 U	160 U	770 U
1,3-Dichlorobenzene	330	420 U	840 U	370 U	160 U	770 U
1,4-Dichlorobenzene	330	420 U	840 U	370 U	160 U	J 077
1.2-Dichlorobenzene	330	420 U	840 U	370 U	760 U	770 U
2.2'-oxybis(1-chloropropane)	330	420 U	840 U	370 U	760 U	770 U
2-Methylphenol	330	420 U	840 U	370 U	760 U	U 077
Hexachloroethane	330	420 U	840 U	370 U	760 U	770 U
N-Nitroso-di-n-propylamine	330	420 U	840 U	370 U	760 U	J 077
4-Methylphenol	330	420 U	840 U	370 U	760 U	770 U
Nitrobenzene	330	420 U	840 U	370 U	160 U	770 U
Isophorone	330	420 U	840 U	370 U	760 U	770 U
2-Nitrophenol	330	420 U	840 U	370 U	160 U	U 077
2,4-Dimethylphenol	330	420 U	840 U	370 U	760 U	J 077
bis(2-Chloroethoxy)methane	330	420 U	840 U	370 U	760 U	J 077
2,4-Dichlorophenol	330	420 U	840 U	370 U	760 U	770 U
1,2,4-Trichlorobenzene	330	420 U	840 U	370 U	760 U	J 077
Naphthalene	330	420 U	1800	370 U	160 U	16 J
4-Chloroaniline	330	420 U	840 U	370 U	760 U	J 077
Hexachlorobutadiene	330	420 U	840 U	370 U	760 U	770 U
4-Chloro-3-methylphenol	330	420 U	840 U	370 U	760 U	J 077
2-Methylnaphthalene	330	420 U	3800	370 U	160 U	1 61
Hexachlorocyclopentadiene	330	420 U	840 U	370 U	160 U	740 U
2,4,6-Trichlorophenol	330	420 U	840 U	370 U	760 U	770 U
2,4,5-Trichlorophenol	008	1000 U	2100 U	930 U	1900 U	D 0061
2-Chloronaphthalene	330	420 U	840 U	370 U	760 U	J 077
2-Nitroaniline	800	1000 U	2100 U	930 U	1900 U	D 0001
Acenaphthylene	330	420 U	840 U	370 U	760 U	770 U
Dimethylphthalate	330	420 U	840 U	370 U	760 U	770 U
2,6-Dinitrotoluene	330	420 U	840 U	370 U	760 U	U 077
Acenaphthene	330	420 U	840 U	370 U	760 U	770 U
3-Nitroaniline	008	1000 I	2100 U	930 U	1900 U	1900 U
2,4-Dinitrophenol	800	1000 U	2100 U	930 U	D 0061	1900 U
Dibenzofuran	330	420 U	840 U	370 U	160 U	U 077
2,4-Dinitrotoluene	330	420 U	840 U	370 U	760 U	U 077
4-Nitrophenol	800	1000 U	2100 U	930 U	1900 U	1900 U
Fluorene	330	420 U	60 J	370 U	760 U	770 U

Semivolatile Organic Compounds						
Site		7	7	7	7	۲
Location		SB7	SB6	SB6	SB6	, I'MCI
Sample Depth		7-SB7-1-3	7.2-8	3.5-5.5	0-2	3.2-4.2
Sample Number		7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5	7-SB6-0-2	7-DWI-3.2-4.2
Laboratory Sample ID		9604821-06	9604821-05	9604821-04	9604821-03	9604821-10
Matrix		soil	soil	soil	lios	Soil
Date Sampled		4/21/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		96/6/5	\$/9/96	96/6/\$	96/6/\$	5/21/96
	CROL					
4-Chlorophenyl-phenylether	330	420 U	840 U	370 U	O 092	770 U
Diethylphthalate	330	420 U	840 U	370 U	160 U	770 U
4-Nitroaniline	008	1000 U	2100 U	930 U	1900 U	U 0001
4,6-Dinitro-2-methylphenol	008	1000 U	2100 U	930 U	1900 U	D 0061
n-Nitrosodiphenylamine	330	420 U	840 U	370 U	760 U	770 U
4-Bromophenyl-phenylether	330	420 U	840 U	370 U	760 U	U 077
Hexachlorobenzene	330	420 U	840 U	370 U	760 U	U 077
Pentachlorophenol	008	1000 U	2100 U	930 U	1900 U	U 0001
Phenanthrene	330	420 U	140 J	370 U	760 U	12 J
Anthracene	330	420 U	840 U	370 U	760 U	U 077
Carbazole	330	420 U	840 U	370 U	760 U	J 077
Di-n-butylphthalate	330	420 U	840 U	370 U	160 U	770 U
Fluoranthene	330	420 U	840 U	370 U	760 U	17 J
Pyrene	330	420 U	840 U	370 U	100 U	I 61
Butylbenzylphthalate	330	420 U	840 U	370 U	760 U	U 077
3,3'-Dichlorobenzidine	330	420 U	840 U	370 U	760 U	770 U
Benzo[a]anthracene	330	420 U	840 U	370 U	760 U	U 077
Chrysene	330	420 U	840 U	370 U	760 U	770 U
bis(2-Ethylhexyl)phthalate	330	130 J	840 U	370 U	760 U	920
Di-n-octylphthalate	330	420 U	840 U	370 U	160 U	43 J
Benzol b Jiluoranthene	330	420 U	840 U	370 U	760 U	770 U
Benzo[k]fluoranthene	330	420 U	840 U	370 U	760 U	770 U
Benzolalpyrene	330	420 U	840 U	370 U	760 U	U 077
Indeno[1,2,3-cd]pyrene	330	420 U	840 U	370 U	760 U	770 U
Dibenz[a,h]anthracene	330	420 U	840 U	370 U	760 U	770 U
Benzolg, h, 1]perylene	330	420 U	840 U	370 U	160 U	U 077
Total TIC concentration		2507	55330	406	160	3360
Units (ug/kg) Soil, (ug/L) Water	ng/kg					
Dilution Factor		-	7	1	2	2
Sample Weight/Volume		30.0g	30.0 g	30.08	30.0 ₪	30.0 g
% Moisture	-	20	21	10	12	13

Site Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled	7 IWG	6 SB17	•	9	
Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled	DW1	SB17		200	
Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled	: )		SB17	SBI7	
Sample Number Laboratory Sample ID Matrix Date Sampled	1.2-3.2	9.5-9.9	4.5-5.8	0.5-2.5	
Laboratory Sample ID Matrix Date Sampled	7-DW1-1.2-3.2	6-SB17-9.5-9.9	6-SB17-4.5-5.8	6-SB17-0.5-2.5	
Matrix Date Sampled	9604821-09	9604799-04	9604799-03	9604799-02	
Date Sampled	lios	lios	lios	Soil	
	4/21/96	4/26/96	4/26/96	4/26/96	
Date Analyzed	96/6/\$	9/8/5	5/10/96	\$/8/96	
CRQL					
bis(2-Chloroethyl)ether 330	410 U	360 U	3700 U	350 U	
Phenol 330	410 U	360 U	3700 U	350 U	
2-Chlorophenol	410 U	360 U	3700 U	350 U	
1,3-Dichlorobenzene 330	410 U	360 U	3700 U	350 U	
1,4-Dichlorobenzene 330	410 U	360 U	3700 U	350 U	
1,2-Dichlorobenzene 330	410 U	360 U	3700 U	350 U	
2,2'-oxybis(1-chloropropane) 330	410 U	360 U	3700 U	350 U	
2-Methylphenol	410 U	360 U	3700 U	350 U	
Hexachloroethane 330	410 U	360 U	3700 U	350 U	
N-Nitroso-di-n-propylamine 330	410 U	360 U	3700 U	350 U	
4-Methylphenol	410 U	360 U	3700 U	350 U	
	410 U	360 U	3700 U	350 U	
	410 U	360 U	3700 U	350 U	
Joi	410 U	360 U	3700 U	350 U	
henoi	410 U	360 U	3700 U	350 U	
methane	410 U	360 U	3700 U	350 U	
	410 U	360 U	3700 U	350 U	
ene	410 U	360 U	3700 U	350 U	
	410 U	2000	13000	420	
ų.	410 U	360 U	3700 U	350 U	
diene	11 017	11 092	11 0025	350 11	
Jour	410 11	11 09%	3700 U	350 U	
	410 11	1300	12000	T 011	
diene	410 11	11 092	110001	350 11	
	410 U	0 09E	3700 U	350 U	
	U 0001	Ω 006	9200 U	Ω 068	
	410 U	. n 09E	3700 U	350 U	
	1000 U	D 006	9200 U	D 068	
2	410 U	360 U	3700 U	350 U	
Dimethylphthalate 330	410 U	360 U	3700 U	350 U	
	410 U	360 U	3700 U	350 U	
	410 U	360 U	3700 U	350 U	
	1000 U	D 006	9200 U	N 068	
Jour	1000 U	D 006	9200 U	U 068	
	410 13	11 091	3700 11	30 11	
	410 11	11 098	3700 11	340 11	
	0.014	0.006	0.00/5	0.000	
nenol	0.0001	0.006	0.0026	0.000	
Fluorene	410 0	360 U	3/00 0	O Oce	

1,2,3,2   2,5,9,9   4,5,5,9   4,5,9	DW1  1.2-3.2  1.2-3.2  1.2-3.2  9604821-09  9604799  soil  4/27/96  4/27/96  5/9/96  5/9/96  5/9/96  5/9/96  5/9/96  1000 U  410 U	9	
12.3.2 6-5817-5.5.9 4.5-5.8 6-58117-0.5 964479-43 6-58117-0.5 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 964479-43 969 U 9000	1.2-3.2 6-SB17-9.5 9604799 8004821-09 801 4729 8	SB17	SB17
7-DWI-11-3-2 6-SB17-95-5-9 6-SB17-45-5-8 6-SB17-45-5-8 9604799-01 9604799-01 9604799-01 9604799-01 9604799-01 9604799-01 9604799-01 9604799-01 9604 U 9200 U	7-DW1-1.2-3.2 6-SB17-9.5 soil 4/22 9604821-09 9604799 9604821-09 9604799 9604799 9604799 9604799 9604799 9604799 9604799 9604799 9604799 9604799 9604799 9604799 970 970 970 970 970 970 970 970 970	4.5-5.8	0.5-2.5
9604821-09         9604799-04         9604799-04         9604799-03         9604799-03           472796         4726/96         4726/96         4726/96         4726/96           5/9/96         5/8/96         5/8/96         5/10/96         5/10/96           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U           410 U         360 U         3700 U         3700 U         4/10 U         360 U         3700 U         4/10 U         360 U         3700 U         4/10 U         360 U         3700 U         3700 U         3700 U         4/10 U <td< th=""><th>8604821-09 80il 4/27/96 80il 4/27/96 8/27/96 8/10 U 410 U</th><th>6-SB17-4.5-5.8</th><th>6-SB17-0.5-2.5</th></td<>	8604821-09 80il 4/27/96 80il 4/27/96 8/27/96 8/10 U 410 U	6-SB17-4.5-5.8	6-SB17-0.5-2.5
soil         soil         soil         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         472/96         5/9         6/9         5/9         6/9         5/9         6/9 <t< th=""><th>80il 4/27/96 5/9</th><th>9604799-03</th><th>9604799-02</th></t<>	80il 4/27/96 5/9	9604799-03	9604799-02
472796 42696 472696 472696 472696 472696 55096 5	4/27/96 5/9/96 5	lios	lios
410 U	410 U 410 U 1000 U 1000 U 410 U	4/26/96	4/26/96
410 U 410 U 360 U 360 U 360 U 360 U 360 U 360 U 410 U 410 U 360 U 360 U 360 U 3700 U 410 U 360 U 360 U 3700 U 3700 U 410 U 360 U 360 U 3700 U 3700 U 410 U 360 U 360 U 3700 U 410 U 360 U 3700 U 410 U 360	410 U 410 U 1000 U 1000 U 410 U	\$/10/96	9/8/96
410 U 360 U 3700 U 1000 U 900 U 9200 U 410 U 360 U 3700 U	410 U 1000 U 1000 U 410 U		
410 U  1000 U  1000 U  1000 U  410 U	410 U 1000 U 1000 U 410 U		350 U
1000 U   900 U   9200 U   9200 U   9400 U   9400 U   9500 U   9700 U   97	1000 U 1000 U 410 U		350 U
410 U	1000 U 410 U 410 U 1000 U 410 U		11 068
410 U 360 U 3700 U 410 U 360 U 360 U 3700 U 3700 U 3700 U 3700 U 410 U 360 U 360 U 3700 U 410 U 360 U 3700 U	410 U 410 U		11 068
410 U  410 U  410 U  360 U  360 U  360 U  410 U  41	410 U 410 U		11 058
410 U 360 U 3700 U 3700 U 410 U 360 U 360 U 3700 U 3700 U 410 U 360 U 3700 U 3700 U 3700 U 410 U 360 U 3700 U 37	410 U 1000 U 410 U		340 11
1000 U 410 U 360 U 360 U 3700 U 410 U 410 U 360 U 3700 U 410 U 410 U 360 U 3700 U 3700 U 410 U 360 U 3700 U	1000 U 410 U		350 11
330     410 U     360 U     3700 U       350 U     3700 U     3700 U <td>330 410 U 330 410 U 330 410 U 410 /td> <td></td> <td>11 068</td>	330 410 U 330 410 U 330 410 U 410		11 068
330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U     3700 U       410 U     360 U     3700 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U     3700 U       410 U     360 U     3700 U     3700 U       330     410 U     360 U     3700 U </td <td>330 410 U 330 410 U 410 U</td> <td>3700 U</td> <td>350 U</td>	330 410 U 330 410 U 410 U	3700 U	350 U
330     410 U     360 U     3700 U       330     410 U     120 J     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U     3700 U       330     410 U     360 U     3700 U       300 B     300 B     300 B     300 B	330 330 410 U 410	3700 U	350 U
330     410 U     120 J     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U       330     410 U     360 U     3700 U       410 U     360 U     3700 U     103       330     410 U     360 U     3700 U       410 U     360 U     3700 U     3700 U       330     300 B     300 B     3700 U	330 410 U 330 410 U 410 U	3700 U	350 U
330     410 U     360 U     3700 U       410 U     360 U     3700 U     103       330     410 U     360 U     3700 U     103       330     410 U     360 U     3700 U       410 U     360 U     3700 U     103       410 U     360 U	330 410 U 330 410 U 410 U	3700 U	350 U
330     410 U     360 U     3700 U       410 U     360 U     3700 U     103       330     410 U     360 U     3700 U     103       410 U     360 U     3700 U     103       410 U     360 U     3700 U     103       330     410 U     360 U     3700 U       410 U     360 U     3700 U     103       410 U     360 U     3700 U     103       330     410 U     360 U     3700 U       410 U     360 U     3700 U     3700 U       410 U <t< td=""><td>330 410 U 330 410 U 410 U 4</td><td></td><td>350 U</td></t<>	330 410 U 330 410 U 410 U 4		350 U
330         410 U         360 U         3700 U           410 U         360 U         3700 U         103           410 U         360 U         3700 U         103           330         410 U         360 U         3700 U         103           410 U         360 U         3700 U         103         103           410 U         360 U         3700 U         103         103           410 U         360 U         3700 U         3700 U         103           410 U         360 U         3700 U         3700 U         103           300 U         3700 U         3700 U         3700 U         103           300 U	330 410 U 330 410 U 410 U 4		350 U
330         410 U         360 UJ         3700 UJ           330         410 U         360 U         3700 U           410 U         360 U         3700 U           330         410 U         360 U         3700 U           410 U         360 U         3700 U           330         410 U         360 U         3700 U           300 U         3700 U         3700 U	330 410 U 330 410 U 330 410 U 330 410 U 410 U		350 U
410 U     360 U     3700 U       410 U     360 U     3700 U       410 U     160 J     1200 J       410 U     360 U     3700 U       3362     52160     1018000     103       1     1     10       30.0g     30.0g     30.0g     30.0g     30.0g	410 U 410 U		350 UJ
410 U     360 U     3700 U       410 U     160 J     1200 J       410 U     360 U     3700 U       3362     52160     1018000     103       30.0g     30.0g     30.0g     30.0g     30.0g	410 U 410 U 410 U 410 U 410 U 410 U 410 U 410 U 110 U 110 U 110 U 110 U 110 U 110 U 110 U 110 U 110 U		350 U
410 U 160 J 1200 J 410 U 360 U 3700 U 410 U 360 U 3700 U 3100 U 3700 U 3700 U 3100 U 3700 U 3700 U 3100 U 3700 U 3700 U 3700 U 3100 U 3700 U 3700 U 3700 U 3700 U	410 U 410 U 410 U 410 U 410 U 410 U 410 U 11 3362 52		350 U
330         410 U         360 U         3700 U           1018000         1018000         103           10         1018000         103           10         10         10	330 410 U 330 410 U 410 U 4	1200 J	350 U
330         410 U         360 U         3700 U           336         360 U         3700 U         103           10         336         3700 U         103           10         1018000         103         103           30.0 g         30.0 g         30.0 g         30	330 410 U 330 410 U 330 410 U 330 410 U 410 U 330 410 U 3362 \$2 3362 \$2 11 30.0g 30	3700 U	350 U
330         410 U         360 U         3700 U           336         360 U         3700 U           101         3700 U         103           102         1018000         103           330 U         30.0 g         30.0 g         30.0 g	330 410 U 330 410 U 330 410 U 410 U 330 410 U 3362 52 1 360 g 30.0g 30	3700 U	350 11
330         410 U         360 U         3700 U           330         410 U         360 U         3700 U           330         410 U         360 U         3700 U           410 U         360 U         3700 U           336         360 U         3700 U           101         3700 U         103           102         1018000         103           103         30.0 g         30.0 g         30.0 g	330 410 U 330 410 U 330 410 U 410 U 3362 52 3362 52 3608 30	3700 U	350 U
330         410 U         360 U         3700 U           330         410 U         360 U         3700 U           330         410 U         360 U         3700 U           100 U         3362         52160         1018000         103           10 U         10 U         10 U         100         103           30.0g         30.0g         30.0g         30.0g         30	330 410 U 330 410 U 330 410 U 3362 52 3362 52 360 g 30.0g 30	3700 U	350 U
330         410 U         360 U         3700 U           330         410 U         360 U         3700 U           100         3362         52160         1018000         103           1         1         1         10         10           30.0g         30.0g         30.0g         30.0g         30	330 410 U 330 410 U 3362 52 3362 52 3362 30 1 1 1 18	3700 U	350 U
330         410 U         360 U         3700 U           ug/kg         3362         52160         1018000         103           30.0g         30.0g         30.0g         30.0g         30	330 410 U 3362 52 ug/kg 1 30.0g 30	3700 U	350 11
ug/kg         1018000         1018000         103           30.0g         3	3362 ug/kg 1 30.0g 18	3700 U	350 U
1 10 30.0g 30.0g	30.0g 18	1018000	103610
$\frac{1}{30.0\mathrm{g}}$ $30.0\mathrm{g}$ $30.0\mathrm{g}$			
30.0 g 30.0 g		10	-
	18	30.0 g	30.0 g

CRDL	Location Sample Depth Sample Number Sample Number		7 7-RB1 9604871.01	6 6-RB1 9404799-01	6 6-DW1-W1 9604821-12	7 SB7 8-8.3 7-SB7-8-8.3 9604821-08
CRDL  - \$18-13/97	y campro		water	water	water	lios
CRDL         \$/8-13/97         \$/8	Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96
CRDL         5 U         44.5           10         1 U         13.2 U           200         4 U         578           4 U         6 U         578           5         2 U         208           10         6 U         6 U         945           5         4 U         10         140           3         1 U         1280         24           40         5 U         24         24           5         1 U         10         1040           5         1 U         5 U         1040           5         1 U         3 U         6.3 J           6.1         3 U         6.3 J         2.1 J           7         2 U         3.5         2.1 J           8.6 B         1730         2.1 J	Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
* 6         5 U         5 U         44.5           10         1 U         1 U         13.2 U           200         4 U         4 U         578           * 4         0.3 U         0.3 U         578           * 5         2 U         2 U         568           10         6 U         6 U         945           6 U         6 U         945           6 U         4 U         1640           945         6 U         945           6 U         4 U         1640           945         6 U         945           6 U         6 U         945           6 U         6 U         945           6 U         6 U         945           7 U         1 U         1040           8 U         3 U         1 U           10         3 U         1 U           10         3 U         3 U           10         3 U         3 U           10         3 U         3 U           10         3 U         4 U           10         3 U         5 U           10         1 U           10         3 U		CRDL				
10         1 U         13.2 U           200         4 U         4 U         578           *4         0.3 U         578         578           *4         0.3 U         4 U         578           \$         2 U         2 U         568           \$         4 U         6 U         945           \$         4 U         4 U         1640           \$         1 U         1280         124           \$         1 U         1280         1040           \$         1 U         5 U         1040           \$         1 U         3 U         1 U           \$         1 U         3 U         6.3 J           \$         1 U         3.3 U         6.3 J           \$         1 U         3.3 U         6.3 J           \$         2 U         3.5 U         2.1 J           \$         2 U         3.5 U         3.5 U	Antimony	9 *	n s	SU	44.5	1.1 U
200         4 U         4 U         578           *4         0.3 U         0.3 U         568           5         2 U         2 U         2 C8           10         6 U         6 U         945           25         4 U         4 U         1640           3         1 U         1 U         1280           3         0.2 U         0.2 U         2.4           40         5 U         1 U         1040           5         1 U         1 U         1 U           40         5 U         1 U         1 U           5         1 U         3 U         6.3 J           7         2 U         3 U         6.3 J           4         2 U         3.5         2.1 J           4         2 U         3.5         2.1 J           8         6 B         1730		10	1 U	1 U	13.2 U	3.4 U
*4         0.3 U         0.3 U         268           5         2 U         2 U         268           10         6 U         6 U         945           25         4 U         4 U         1640           3         1 U         1 U         1280           6 U         6 U         945         945           6 U         6 U         945         1640           7         1 U         1 U         2.4           8 U         5 U         1 U         1 U           8 Soil, (ug/L) Water         12.3 B         8.6 B         1730		200	4 U	4 U	578	729
kg) Soil, (ug/L) Water     2 U     268       2 U     6 U     945       6 U     6 U     945       7 U     1 U     1 1 0       8 U     5 U     1 U       1 U     1 U     1 U       1 U     3 U     6.3 J       1 U     3.5     2.1 J       1 U     3.5     3.1 J       1 U     3.5     4.1 J       1 U     3.5     4.1 J	Beryllium	*	0.3 U	0.3 U	0.3 U	0.3 U
kg) Soil, (ug/L) Water         6 U         6 U         945           6 U         4 U         4 U         1640           7         4 U         1 U         1640           1 U         1 U         2.4           2 U         5 U         1 U         1 U           4 U         5 U         2.4         2.4           5 U         1 U         1 U         1 U           5 U         3 U         6.3 J         2.1 J           6 Soil, (ug/L) Water         ug/L         17.30         1730		2	2 U	2 U	268	0.43 U
25 4 U 1640 3 1U 1280 102 0.2 U 2.2 U 2.4 40 5 U 5 U 1040 5 1 U 1U 1040 1 U 1 U 6.3 J 2 2 U 3.5 2.1 J 3 U 3.5 2.1 J 3 U 3.5 2.1 J 3 U 3.5 2.1 J 4 U 3.5 2.1 J 5 2 U 3.5 2.1 J 6.3 J	Chromium	10	Ω9	Ω9	945	10.9
3     1 U     1280       0.2     0.2 U     2.4       40     5 U     1040       5     1 U     1 U       10     3 U     6.3 J       *2     2 U     3.5     2.1 J       20     12.3 B     8.6 B     1730		25	4 U	4 U	1640	13.3
0.2         0.2 U         2.4           40         5 U         1040           5         1 U         1 UJ           10         3 U         6.3 J           *2         2 U         3.5         2.1 J           20         12.3 B         8.6 B         1730		3	1 U	1 U	1280	9.2
40     \$ U     \$ U     1040       5     1 U     1 UJ     1 UJ       10     3 U     6.3 J       *2     2 U     3.5     2.1 J       20     12.3 B     8.6 B     1730       ug/L     1730		0.2	0.2 U	0.2 U	2.4	0.11 U
5 1 U 1 UJ 10 3 U 6.3 J *2 2 U 3.5 2.1 J 20 12.3 B 8.6 B 1730		40	\$ U	S U	1040	12.1
10 3 U 5.3 J *2 2 U 3.5 2.1 J 20 12.3 B 8.6 B 1730		\$	1 U	1 U	1 UI	0.18 UJ
*2 2 U 3.5 2.1 J 20 12.3 B 8.6 B 1730		10	3 U	3 U	6.3 J	0.65 U
20 12.3 B 8.6 B 1730 ug/L		*2	2 U	3.5	2.1 J	0.36 U
T/8n		20	12.3 B	8.6 B	1730	37
	Units (mg/kg) Soil, (ug/L) Water	T/gn				816
	spilos %					) • d •

Inorganics					
Site		7	7	7	7
Location		SB7	SB7	SB6	SB6
Sample Depth		3.4-5.2	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number		7-SB7-3.4-5.2	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3,5-5,5
Laboratory Sample ID		9604821-07	9604821-06	9604821-05	9604821-04
Matrix		lios	soil	lios	lios
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
	CRDL				
Antimony	9 *	U 16:0	1.1 U	12.11	1 1 1
Arsenic	10	2.9 U	6.6	11 6	21.0
Barium	200	122	292	165	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Beryllium	* 4	0.31 U	0.62 U	11110	0.23.11
Cadmium	2	0.37 U	0.44 U	0.48 []	0.22.0
Chromium	10	6.3	17.5	10.4	5 5 9
Copper	25	10.5	13.9	17	13.1
Lead	3	5.8	9.3	7.11	4.5
Mercury	0.2	0.11 U	0.12 U	0.13 U	11 60 0
Nickel	40	9.3	16.1	9.3 J	1.97
Selenium	S	0.17 UJ	0.18 UJ	0.2 UJ	III 61:0
Silver	10	0.55 U	0.66 U	0.73 U	0.62 U
Thallium	* 2	0.34 U	0.37 U	0.39 U	0.37 U
Zinc	20	41.5	43.5	48.2	366
Units (mg/kg) Soil, (ug/L) Water	ng/L				
% Solids		91.2	80.2	78.7	8 68
<ul> <li>Project-specific CRDL</li> </ul>				į	

Inorganics	,				
Site		7	7	7	9
Location		SB6	DW1	DW1	SB17
Sample Depth		0-2	3.2-4.2	1.2-3.2	9.5-9.9
Sample Number		7-SB6-0-2	7-DW1-3.2-4.2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Laboratory Sample ID		9604821-03	9604821-10	9604821-09	9604799-04
Matrix		lios	lios	soil	lios
Date Sampled		4/27/96	4/27/96	4/27/96	4/26/96
Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
	CRDL				
Antimony	9 *	1.1 U	1 U	1.1.0	1.1 U
Arsenic	10	D 6.9	7.5 U	O 8.9	D 6.3
Barium	200	181	229	239	119
Beryllium	*	0.33 U	0.53 U	0.71 U	0.28 U
Cadmium	\$	0.44 U	0.41 U	0.44 U	0.43 U
Chromium	10	10.7	13.1	19.3	7.8
Copper	25	19.7	15.1	18.9	15.3
Lead	3	7.5	9.4	8.5	5.9
Mercury	0.2	0.08 U	0.11	0.11 U	0.11 U
Nickel	40	10.9	13.5	16.2	11.9
Selenium	S	0.16 UJ	U 61.0	UN 101	0.17 UJ
Silver	10	0.65 U	0.61 U	0.66 U	0.64 U
Thallium	* 2	0.32 U	0.38 U	0.35 U	0.34
Zinc	20	45.8	50.8	45.7	38.7
Units (mg/kg) Soil, (ug/L) Water % Solids	T/Sn	88.4	87.4	81.6	92.5
* Project-specific CRDL					

	9	SB17	0.5-2.5	6-SB17-0.5-2.5	9604799-02	lios	4/26/96	5/8-13/97		1 U	4.1 U	444	0.28 U	0.41 U	9.2	10.7	4.4	0.1	9.4	0.18 UJ	0.61 U	0.35 U	32.8		94	
	9	SB17	4.5-5.8	6-SB17-4.5-5.8	9604799-03	lios	4/26/96	5/8-13/97		U 62.0	2.2 U	186	0.3 U	0.32 U	7.1	13.4	8.8	O 60:0	8.2	U 61.0	0.48 U	0.37 U	38.9		91.2	
									CRDL	9 *	10	200	*	S	10	25	6	0.2	40	\$	10	*2	20	ng/L		
Inorganics	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Units (mg/kg) Soil, (ug/L) Water	% Solids	* Project-specific CRDL

JP4, Gas, Diesel, Oil	•				ı
Site		7	9	9	7
Location					SB7
Sample Denth					8-8.3
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08
Matrix		water	water	water	soil
Date Sampled	•	4/29/96	4/26/96	4/28/96	4/27/96
Date Analyzed		5/8-10/96	\$/10/96	5/9-10/96	5/9-13/96
	* RL				
IP-4	10	0.25 U	NA	150	950
Diesel range, as diesel	10	0.25 U	NA	82	008
Oil range, as oil	100	1 U	NA	78	8400
Gasoline range	2	0.25 U	0.25 U	59 NJ	1700 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		100	100	100	∞
* Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		7	7	7	7
Location		SB7	SB7	SB6	SB6
Sample Depth		3.4-5.2	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number		7-SB7-3.4-5.2	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5
Laboratory Sample ID		9604821-07	9604821-06	9604821-05	9604821-04
Matrix		lios	lios	lios	lios
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/8-13/96	5/8-10/96	5/8-13/96	98-10/96
	* RL				
JP-4	10	11 U	12 U	470	11 U
Diesel range, as diesel	10	09	12 U	006	11 11
Oil range, as oil	100	460	120 U	0068	110 U
Gasoline range	S	8.1 NJ	6.2 U	IN 096	19.5 10.95
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		6	20	21	10
* Reporting Limit					

JP4, Gas, Diesel, Oil	•				
Site		7	7	7	9
Location		SB6	DW1	DW1	SB17
Sample Depth		0-2	3.2-4.2	1.2-3.2	6.6-5.6
Sample Number		7-SB6-0-2	7-DW1-3.2-4.2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Laboratory Sample ID		9604821-03	9604821-10	9604821-09	9604799-04
Matrix		lios	soil	lios	lios
Date Sampled		4/27/96	4/27/96	4/27/96	4/26/96
Date Analyzed		5/9-13/96	5/8-13/96	5/8-13/96	5/9-13/96
	* RL				
JP-4	10	11 U	U 11	12 U	2600
Diesel range, as diesel	10	11 U	13	12 U	069
Oil range, as oil	100	110 U	140	. 120 U	1100
Gasoline range	\$	5.7 U	5.7 U	6.1 U	Z900 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg			;	•
% Moisture		12	13	18	∞
* Reporting Limit					

	-			
Site		9	9	
Location		SB17	SRIT	
Sample Depth		4.5-5.8	7.50	
Sample Number		6-SB17-4.5-5.8	6-SB17-0-5-2-5	
Laboratory Sample ID		9604799-03	9604799-02	
Matrix		lios	lios	
Date Sampled		4/26/96	4/26/96	
Date Analyzed		5/10-13/96	5/10-13/96	
	* RL			
JP-4	10	7800	1300	
Diesel range, as diesel	10	2800	18 NJ	
Oil range, as oil	100	14000	110 U	
Gasoline range	S	17000 NJ	2600 NJ	
Units (mg/kg) Soil, (mg/L) Water	mg/kg			
% Moisture		6	9	
* Reporting Limit				

volacile Organic Compounds						
Site		∞	∞	00	7	•
Location						SB9
Sample Depth						8.5-9.4
Sample Number		8-TB4	8-TB3	8-RB2	7-TB1	8-SB9-8.5-9.4
Laboratory Sample ID		9605024-12	9605024-07	9605024-11	9604830-06	9605024-06
Matrix		water	water	water	water	lios
Date Sampled		4/30/96	. 4/30/96	4/30/96	4/27/96	4/30/96
	_	96/8/\$	96/8/5	96/8/9	96/2/5	96/9/\$
	CROL	101	10.11	11 01	10 11	11 11
	0 9			0 9	1 91 0 01	
	2 ;	0.01	0.01	0 01		
Bromomethane	10	10 U	10 U	10 01	10 01	0 11
Chloroethane	01	10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethene	10	10 U	10 U	10 O	10 U	11 U
Acetone	10	6 J	10 U	91	10 U	93
Carbon Disuffide	10	10 U	10 U	10 U	10 U	1.5
Methylene Chloride	10	1 J	1.5	10 U	10 U	11 U
1 1-Dichloroethane	10	10 U	10 U	10 U	10 U	11 U
2-Butanone	01	10 U	10 OI	10 01	10 U	8 3
Chloroform	2 2	1101	11 01	1001	U 01	11 U
1 1 Trichlanethane	2 2	11 01	11 01	U 01	10 U	
Carbon Tetrachloride	2 2	11 01	11 01	11 01	D 01	11 U
Described to the desired the control of the control	2 5	1101	11 01	11 01	11 01	11 11
Denzene 1 2 E. H.	2 9	11 91		1101	1101	
1,2-Dichloroethane	01 9	001				
Inchloroethene	01 9	001	001	23		101
1,2-Dichloropropane	01 ;	001	0.01	0.01		
Bromodichloromethane	0 :	0.01	0 01	0.07	0.01	
cis-1,3-Dichloropropene	10	10 0	D 01	0.01	0 01	
4-Methyl-2-Pentanone	10	10 U	10 0	10 U	10 0	0 11
Toluene	10	10 U	10 U	10 U	10 U	1 3
trans-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	11 0
1,1,2-Trichloroethane	10	10 U	10 U	10 U	10 U	11 U
Tetrachloroethene	01	10 U	10 U	10 U	10 U	
2-Hexanone	10	10 U	10 U	10 U	10 U	2 J
Dibromochloromethane	10	10 U	10 U	10 U	10 U	11 U
Chlorobenzene	10	10 CI	10 U	10 U	10 U	11 U
Ethylbenzene	10	10 U	10 U	10 U	10 O	11 U
Styrene	10	10 U	10 U	10 U	10 U	11 U
Bromoform	10	10 U	10 U	10 U	10 U	11 U
1, 1, 2, 2-Tetrachloroethane	10	10 U	10 U	10 U	10 U	11 U
1,2-Dichloroethene (total)	10	10 U	10 U	10 U	10 U	11 U
Xylene (total)	10	10 U	10 U	10 U	10 U	11 U
Total TIC concentration		16	0	20	0	0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		-		1	1	1
Sample Weight/Volume		5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 g
% Moieture		100	100	100	100	٥

Site Location Sample Depth Sample Number Laboratory Sample ID	•				
Location Sample Depth Sample Number Laboratory Sample ID	•	<b>0</b> 0	66	80	∞
Sample Depth Sample Number Laboratory Sample ID	SB9	SB9	SB10	SB10	SB10
Sample Number Laboratory Sample ID	4.5-5.5	8-SB9-1-3	6-6-6	4.5-6.5	4.5-6.5
Laboratory Sample ID	8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9	8-SB10-4.5-6.5DL	8-SB10-4.5-6.5
	9605024-05	9605024-04	9605024-10	9605024-09DL	9605024-09
Matrix	lios	ios	soil	soil	lios
Date Sampled	4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed	96/9/\$	9/3/96	96/9/\$	96/L/\$	96/9/\$
CRQL					
	11 U	11 U	11 U	1500 U	12 U
	11 U	11 U	11 U	1500 U	12 U
Bromomethane 10	UII	11 UJ	11 U	1500 U	12 11
Chloroethane 10	1110	11 UJ	11 U	1500 U	12 U
1,1-Dichloroethene 10	11 U	11 U	11 U	1500 U	12 U
	82	28(B/	160	f 006	490 J
	11 U	11 U	11 U	1500 U	12 U
	11.0	11 U	11 U	1500 U	12 U
oethane	11 U	11 U	11 U	1500 U	12 U
	11 U	4 J	10 J	1500 U	2 J
	11 0	11 U	11 U	1500 U	12 U
	11 U	11 U	11 U	1500 U	12 U
[etrachloride	11.0	11 U	11 U	1500 U	12 U
	111 U	11 U	11 U	1500 U	12 U
ine	11 U	11 U	11 U	1500 U	12 U
	11 U	. U II	11 U	1500 U	12 U
		11 U	11 U	1500 U	12 U
	11 U	11 U	11 U	1500 U	12 U
10	1110	11 U	11 U	1500 U	12 U
I-2-Pentanone	11 U	6 J	11 U	1500 U	12 U
	1.1	11 U	1.5	. 1500 U	1.5
bene	11 U	11 U	11 U	1500 U	12 U
ane	11 U	11 U	11 U	1500 U	12 U
thene	11 U	11 U	11 U	1500 U	12 U
	110	4 J	UII	1500 U	12 U
methane	11 U	11 U	11 U	1500 U	12 U
ō	11 U	11 U	11 U	1500 U	12 U
nzene	11 U	11 U	11 U	1500 U	12 U
	11 U	11 U	11 U	1500 U	12 U
	110	11 U	11 U	1500 U	12 U
	11 U	11 U	11 U	1500 U	12 U
thene (total)	11 U	11 U	11 U	1500 U	12 U
Xylene (total)	1 J	11 U	1 J	1500 U	1.1
Total TIC concentration	21	14	27	0	14
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor	-	1		1	1
Sample Weight/Volume	5.08	5.0 g	5.0 g	4.0 g (Medium level)	5.08
70 MOBILIE	<b>A</b>	12	90	18	18

Volatile Organic Compounds					
Site	••	∞	7	7	7
Location	SB10	SB10	SB5	SB5	SB5
Sample Depth	4.5-6.5	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number	8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3DL
Laboratory Sample ID	9605024-09	9605024-08	9604830-03	9604830-02	9604830-01DL
Matrix	lios	lios	soil	ios	lios
Date Sampled	4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed	Composite result	96/9/\$	96/2/5	96/2/5	96/6/5
CKQL	12 11	11 11	1400 11	1400 11	11 85
	11 C1		1400 11	1400 11	11 85
	11 61	11 (	1400 11	1400 11	11 88
	22.5	11	1400 11	1400 11	11 85
the state of the s	12.0		1400 11	1400 11	11 85
	1 006	210	1400 1	F 026	850 J
Disulfide	12 U	1 1	1400 U	1400 U	58 U
de	12 U	U 11	1400 U	1400 U	26 J
	12 U	11 U	1400 U	1400 U	58 U
2-Butanone	2 J	2 J	1400 U	1400 U	S7 J
Chloroform 10	12 U	11 U	730 J	1400 U	28 U
1,1,1-Trichloroethane 10	12 U	11 U	1400 U	1400 U	58 U
Carbon Tetrachloride 10	12 U	11 U	1400 U	1400 U	28 U
Benzene 10	12 U	11 U	830 J	1400 U	5 J
1,2-Dichloroethane 10	12 U	11 U	1400 U	1400 U	28 U
Trichloroethene 10	12 U	11 U	1400 U	1400 U	4 J
1,2-Dichloropropane 10	12 U	11 U	1400 U	1400 U	28 U
	12 U	11 U	1400 U	1400 U	28 U
2		11 U	1400 U	1400 U	O 85
4-Methyl-2-Pentanone	12 U	11 U	1400 U	1400 U	D 85
		1 J	5700	1400 U	6 J
ocue	12 U	11 U	1400 U	1400 U	D 85
1, 1, 2-Trichloroethane 10	12 U	11 U	1400 U	1400 U	O 88 O
Tetrachloroethene 10	12 U	11 U	1400 U	1400 U	28 U
2-Hexanone 10	12 U	11 U	1400 U	1400 U	O 88 O
Dibromochloromethane 10	12 U	11 U	1400 U	1400 U	28 U
Chlorobenzene 10	12 U	11 U	1400 U	1400 U	28 U
Ethylbenzene 10	12 U	11 U	13000	190 J	28 U
Styrene 10	12 U	11 U	1400 U	1400 U	28 U
Bromoform 10	12 U	11 U	1400 U	1400 U	28 U
1,1,2,2-Tetrachloroethane 10	12 U	11 U	1400 U	1400 U	58 U
1,2-Dichloroethene (total)	12 U	11 U	1400 U	1400 U	28 U
Xylene (total)	1.1	11 U	80000	1600	4 J
Total TIC concentration		15	170000	29380	70
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	-	-	1
Sample Weight/Volume	Composite result	5.0 g	4.0 g (Medium level)	4.0 g (Medium level)	1.0 g
% Moisture	18	10	00	90	14

Volatile Organic Compounds						
Site		7	7	9	9	vo
Location		SB5	SB5	SB16	SBI6	SB16
Sample Depth		1-3.	1-3.	8.5-9.5	3.9-4.5	0.6-00
Sample Number		7-SB5-1-3	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3 9-4 \$	6-SB16 0 2 0
Laboratory Sample ID		9604830-01	9604830-01	9605024-03	9605024-02	9605024-01
Matrix		soil	soil	lios	lios	10-170000
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96	#CS 4/30/96
Date Analyzed		96/9/\$	Composite result	9/7/5	5/3/96	5/3/96
	CRQL					
Chloromethane	10	12 U	12 U	1300 U	11 U	11 U
Vinyl Chloride	10	12 U	12 U	1300 U	11 U	011
Bromomethane	01	12 U	12 U	1300 U	11 UJ	111 11
Chloroethane	10	12 U	12 U	1300 U	11 UJ	55 11
1,1-Dichloroethene	10	12 U	12 U	1300 U	11 U	מו
Acetone	10	750 J	850 J	2000	140	130
Carbon Disulfide	10	12 U	12 U	1300 U	11 U	חוו
Methylene Chloride	10	12 U	12 U	1300 U	11 U	011
1,1-Dichloroethane	10	12 U	12 U	1300 U	11 U	חוו
2-Butanone	10	8 ì	I 80	1300 U	9 J	) -, oc
Chloroform	10	12 U	12 U	1300 U	D II	F -
1,1,1-Trichloroethane	10	12 U	12 U	1300 U	D II	1111
Carbon Tetrachloride	10	12 U	12 U	1300 U	DII	1111
Benzene	10	12 U	12 U	1300 U	D 11	
1,2-Dichloroethane	10	12 U	12 U	1300 U	11 U	חוו
Trichloroethene	10	12 U	12 U	1300 U	11 U	חוו
1,2-Dichloropropane	10	12 U	12 U	1300 U	11 U	מו
Bromodichloromethane	10	12 U	12 U	1300 U	11 U	0111
cis-1,3-Dichloropropene	10	12 U	12 U	1300 U	11 U	0.11
4-Methyl-2-Pentanone	10	12 U	12 U	1300 U	11 U	111
Toluene	10	2 J	2 J	1300 U	11 U	11 0
trans-1,3-Dichloropropene	10	12 U	12 U	1300 U	11 U	D 11
1,1,2-Trichloroethane	01	12 U	12 U	1300 U	11 U	11 U
I ctrachloroethene	10	12 U	12 U	1300 U	11 U	11 U
Z-Hexanone	10	12 U	12 U	1300 U	5 J	5 J
Dibromochloromethane	10	12 U	12 U	1300 U	11 U	11 U
Chlorobenzene	10	12 U	12 U	1300 U	11 U	11 U
Ethylbenzene	10	1.5	1.5	100 J	11 U	11 U
Styrene	10	12 U	12 U	1300 U	11 U	11 U
Bromoform	10	12 U	12 U	1300 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	12 U	12 U	1300 U	11 U	11 U
1,2-Dichloroethene (total)	10	12 U	12 U	1300 U	11 U	11 U
Xylene (total)	10	4 J	4 J	510 J	11 U	n II
Total TIC concentration		127		38400	14	33
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1		1	1	
Sample Weight/Volume		5.0 g	Composite result	4.0 g (Medium level)	5.0 g	5.0 g
% Moisture	_	14	14	٢	6	12

December		,				
CROSS   CROS				0	0	
A		DWI	DWI	DWI	DWI	
CROIL   C-DWI-12-15   C-DWI-4-14-16 DL   C-DWI-4-14-16   C-D	epth	7.3-7.6	4.1-4.6	4,1-4.6	4.1-4.6	
Accordance   Section   S	umber	6-DW1-7.3-7.6	6-DW1-4.1-4.6DL	6-DW1-4.1-4.6	6-DW1-4.1-4.6	
According to be a composite compos	/ Sample ID	9604830-05	9604830-04DL	9604830-04	9604830-04	
ACTORNO   ACTO		lios	lios	lios	soil	
CRQ1	led	4/21/96	4/21/96	4/27/96	4/27/96	
CROIL   1400 U   2700 UJ   1400 U   1400 U   1400 U   1400 U   1400 U   2700 UJ   1400 U	vzed	5/2/96	9/6/6	5/2/96	Composite result	
10   1400 U   2700 UJ   1400 U   1400						
there 10 1400 U 2700 UJ 1400 U 1700 UJ 1400 U 1400 U 1400 U 1700 UJ 1400 UJ 1700 U		1400 U	2700 UJ	1400 U	1400 U	
there 10 1400 U 2700 UJ 1400 U 1700 UJ 1400 UJ 1400 UJ 1700 UJ 1400 UJ 1400 UJ 1400 UJ 1700 UJ 1400 UJ 1400 UJ 1700 UJ 1400 UJ		1400 U	2700 UJ	1400 U	1400 U	
there 10 1400 U 2700 UJ 1400 U 1700 UJ 1400 U 1400 U 1400 U 1700 UJ 1400 UJ 1700 UJ 17		1400 U	2700 UJ	1400 U	1400 U	
there 10 1400 U 2700 UJ 1400 U 1400 U 1000 U		1400 U	2700 UJ	1400 U	1400 U	
10	thene	1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10   1400 U   250 J   1400 U		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	250 J	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10	oroethane	1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	230 J	280 J	280 J	
10 1400 U 2700 UJ 1400 U 1400 U 1700 UJ 1400 U 1400 U 1700 UJ 1700 UJ 1400 U 1700 UJ 1700	pane	1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10   4500   55000 J   60000 J   55000 J     10   1400 U   2700 UJ   1400 U     1400 U   1400 U   2700 UJ   1400 U     1400 U   1400 U   2700 UJ   1400 U     1400 U   1400 U   2700 UJ   1400 U     1400 U   1400 U   2700 UJ   1400 U     1400 U   1400 U   2700 UJ   1400 U     1400		1400 U	2700 UJ	1400 U	1400 U	
10 1400 U 2700 UJ 1400 U 1400 U 1700 UJ 1400 U 1400 U 1700 UJ 1400 U 1400 U 1700 UJ		4500	55000 J	f 00009	55000 J	
10		1400 U	2700 UJ	1400 U	1400 U	
10 1400 U 2700 UJ 1400 U 1400 U 1400 U 1400 U 1400 U 1400 U 2700 UJ 1400 U 1400 U 1400 U 1400 U 2700 UJ 1400 U 1400 U 1400 U 2700 UJ 1400 U 140		1400 U	2700 UJ	1400 U	1400 U	
10 1400 U 2700 UJ 1400 U 1400 U 1400 U 1700 UJ 1400 U 1400 U 2700 UJ 1400 U 1400 U 1400 U 2700 UJ 1400 U		1400 U	2700 UJ	1400 U	1400 U	
10 1400 U 2700 UJ 1400 U 1400 U 1400 U 1400 U 1700 UJ 1400 U 1700 UJ 1400 U 1700 UJ 1400 U 1900 S900 J 5400 U 1400 U 1700 UJ 1400 UJ 1700 UJ 1400 UJ 1700 UJ 170		1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	2700 UJ	1400 U	1400 U	
10   1900   5900 J   5400     10   1400 U   2700 UJ   1400 U     10   1400 U   2700 UJ   1400 U     10   1400 U   2700 UJ   1400 U     1400 U   2700 UJ   1400 U     1400 U   2700 UJ   350 J     1400 U   37000 J   350 J     1400 U   37000 J   350 J     1400 U   37000 J   360 J     1400 U   3700 UJ   360 UJ     1400 UJ		1400 U	2700 UJ	1400 U	1400 U	
10         1400 U         2700 UJ         1400 U           10         1400 U         2700 UJ         1400 U           10         1400 U         2700 UJ         1400 U           10         1400 U         250 J         350 J           250 J         37000 J         34000         3           213500         393000         148800         34000           213500         393000         148800         148800           213500         4.0 (Medium level)         4.0 (Medium level)         4.0 (Medium level)         Composite		1900	\$900 J	5400	5400	
10         1400 U         2700 UJ         1400 U           loroethane         10         1400 U         2700 UJ         1400 U           ene (total)         10         1400 U         250 J         350 J           entration         213500         37000 J         34000         3           oil, (ug/L) Water         1         1         148800           Volume         4.0 (Medium level)         4.0 (Medium level)         4.0 (Medium level)         Composite	10	1400 U	2700 UJ	1400 U	1400 U	
loroethane         10         1400 U         2700 UJ         1400 U           ene (total)         10         1400 U         250 J         350 J           entration         213500         37000 J         34000         3           oil, (ug/L) Water         1         1         148800           Volume         1         4.0 (Medium level)         4.0 (Medium level)         4.0 (Medium level)         Composite		1400 U	2700 UJ	1400 U	1400 U	
cine (total)         10         1400 U         250 J         350 J         3           entration         213500         393000         148800         3           oil, (ug/L) Water         1         1         1           Volume         4.0 (Medium level)         4.0 (Medium level)         4.0 (Medium level)         Composite r	achloroethane	1400 U	2700 UJ	1400 U	1400 U	
10		1400 U	250 J	350 J	350 J	
oil, (ug/L.) Water 213500 393000 148800 oil, (ug/L.) Water 1 2 1  Volume 4.0 (Medium level) 4.0 (Medium level) 4.0 (Medium level)		14000	37000 J	34000	34000	
0il, (ug/L.) Water       1       1         1       1       1         1       4.0 (Medium level)       4.0 (Medium level)	concentration	213500	393000	148800		
Volume 4.0 (Medium level) 4.0 (Medium level) 4.0 (Medium level)	kg) Soil, (ug/L) Water	-	۲	-		
4.0 (Medium level) 4.0 (Medium level) 4.0 (Medium level)	actor		7		3	
	eight/Volume	4.0 (Medium level)	4.0 (Medium level)	4.0 (Medium level)	Composite result	

Semivolatile Organic Compounds						
Site		00	∞	••	œ	œ
Location			SB9	SB9	SB9	SB10
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3	6.6-6
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04	9605024-10
Matrix		water	lios	lios	soil	lios
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
		9/16/96	5/12/96	5/15/96	5/15/96	9/19/5
CR	CRQL					
bis(2-Chloroethyl)ether 3:	330	10 U	360 U	370 U	380 U	360 U
Phenol	330	10 U	360 U	370 U	380 U	360 U
2-Chlorophenol 3:	330	10 U	360 U	370 U	380 U	360 U
zene	330	10 U	360 U	370 U	380 U	O 098
	330	10 U	360 U	370 U	380 U	O 098
	330	10 U	360 U	370 U	380 U	360 U
ropane)	330	10 U	360 U	370 U	380 U	109E
	330	10 U	360 U	370 U	380 U	360 U
9	330	10 U	360 U	370 U	380 U	360 U
opvlamine	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
loi	330	10 U	360 U	370 U	380 U	360 U
henoi	330	10 U	360 U	370 U	380 U	360 U
methane	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
cene	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
ne	330	10 U	360 U	370 U	380 U	360 U
diene	330	10 U	360 U	370 U	380 U	O 098
4-Chloro-3-methylphenol	330	10 U	360 U	370 U	380 U	360 U
2-Methylnaphthalene	330	10 U	360 U	370 U	380 U	360 U
Hexachlorocyclopentadiene 3	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
	008	25 U	910 U	920 U	056 U	910 U
	330	10 U	360 U	370 U	380 U	360 U
2-Nitroaniline	008	25 U	910 U	920 U	950 U	010 U
Acenaphthylene 3	330	10 U	360 U	370 U	380 U	360 U
ţ.	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
	330	10 U	360 U	370 U	380 U	360 U
	008	25 U	910 U	920 U	950 U	910 U
2,4-Dinitrophenol	800	25 U	910 U	920 U	050 U	O 016
Dibenzofuran 3	330	10 U	360 U	370 U	380 U	360 U
2,4-Dinitrotoluene	330	10 U	360 U	370 U	380 U	360 U
4-Nitrophenol	008	25 U	910 U	920 U	056 U	910 U
	330	10 U	360 U	370 U	380 U	360 U

Semivolatile Organic Compounds						
Site		∞	∞	00	04	o
Location			SB9	SB9	SB9	SB10
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3	6.6-6
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04	9605024-10
Matrix	-	water	lios	lios	lios	lios
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed	CROI.	\$/16/96	5/15/96	\$/15/96	5/15/96	96/91/9
4-Chlorophenyl-phenylether	330	10 17	340 11	370 11	11 000	
Diethylphthalate	330	10 U	300 U	370 11	380 03	360 11
4-Nitroaniline	008	25 U	910 U	920 U	12 056	2008
4,6-Dinitro-2-methylphenol	800	25 U	U 016	920 U	950 U	11016
n-Nitrosodiphenylamine	330	10 U	360 U	370 U	380 U	360 11
4-Bromophenyl-phenylether	330	10 U	360 U	370 U	380 U	360 U
Hexachlorobenzene	330	10 U	360 U	370 U	380 U	360 U
Fentachlorophenol	008	25 U	910 U	920 U	050 U	910 U
Phenanthrene	330	10 U	360 U	370 U	380 U	360 U
Anthracene	330	10 U	360 U	370 U	380 U	360 U
Carbazole	330	10 U	360 U	370 U	380 U	360 U
Di-n-butylphthalate	330	10 U	360 U	370 U	380 U	360 U
Fluoranthene	330	10 U	360 U	370 U	380 U	360 U
Fyrene	330	10 U	360 U	370 U	380 U	360 U
Butylbenzylphthalate	330	10 U	360 U	370 U	380 U	360 U
3,3'-Dichlorobenzidine	330	10 U	360 UJ	370 UJ	380 UJ	360 U
Benzo[a]anthracene	330	10 U	360 U	370 U	380 U	360 U
Chrysene	330	10 U	360 U	370 U	380 U	360 U
bis(2-Ethylhexyl)phthalate	330	4 BJ	360 U	190 J	200 J	360 U
Di-n-octylphthalate	330	1 J	360 U	14 J	6 J	360 U
Benzo b Itluoranthene	330	10 U	360 U	370 U	380 U	360 U
Benzo k Huoranthene	330	10 U	360 U	370 U	380 U	360 U
Benzolajpyrene	330	10 U	360 U	370 U	380 U	360 U
Indeno[1,2,3-cd]pyrene	330	10 U	360 U	370 U	380 U	360 U
Dibenz[a,h]anthracene	330	10 U	360 U	370 U	380 U	360 U
Benzolg, n, 1]perylene	330	10 U	360 U	370 U	380 U	360 U
I otal TIC concentration		14	709	1026	2722	099
Units (ug/kg) Soil, (ug/L) Water Dilution Factor	ug/kg	1	-	-	_	-
Sample Weight/Volume		1000 mL	30.08	3008	3002	3002
% Moisture			0 00	6	30.0g 12	a0 oo

Semivolatile Organic Compounds					
Site	00	<b>0</b> 0	7	7	7
Location	SB10	SB10	SB5	SB\$	SB5
Sample Depth	4.5-6.5	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number	8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3
Laboratory Sample ID	9605024-09	9605024-08	9604830-03	9604830-02	9604830-01
Matrix	lios	lios	lios	lios	soil
Date Sampled	4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed	5/16/96	5/16/96	5/10/96	5/10/96	5/24/96
CRQL					
bis(2-Chloroethyl)ether 330	360 U	370 U	1400 U	1400 U	390 U
Phenoi 330	360 U	370 U	1400 U	1400 U	390 U
2-Chlorophenol	O 098	370 U	1400 U	1400 U	390 U
1,3-Dichlorobenzene 330	360 U	370 U	1400 U	1400 U	390 U
1,4-Dichlorobenzene 330	360 U	370 U	1400 U	1400 U	390 U
1,2-Dichlorobenzene 330	360 U	370 U	1400 U	1400 U	390 U
2,2'-oxybis(1-chloropropane) 330	360 U	370 U	1400 U	1400 U	390 U
2-Methylphenol	360 U	370 U	1400 U	1400 U	390 U
Hexachloroethane 330	360 U	370 U	1400 U	1400 U	390 U
N-Nitroso-di-n-propylamine 330	360 U	370 U	1400 U	1400 U	390 U
4-Methylphenol 330	360 U	370 U	1400 U	1400 U	390 U
	360 U	370 U	1400 U	1400 U	390 U
	360 U	370 U	1400 U	1400 U	390 U
2-Nitrophenol 330	360 U	370 U	1400 U	1400 U	390 U
2,4-Dimethylphenol	360 U	370 U	1400 U	1400 U	390 U
bis(2-Chloroethoxy)methane 330	360 U	370 U	1400 U	1400 U	390 U
	360 U	370 U	1400 U	1400 U	390 U
ene		370 U	1400 U	1400 U	390 U
Naphthalene 330	360 U	370 U	950 J	3300	7 J,
4-Chloroaniline 330	360 U	370 U	1400 U	1400 U	390 U
Hexachlorobutadiene 330	360 U	370 U	1400 U	1400 U	390 U
4-Chloro-3-methylphenol	360 U	370 U	1400 U	1400 U	390 U
2-Methylnaphthalene 330	360 U	370 U	1600	5100	4 J
Hexachlorocyclopentadiene 330	360 U	370 U	1400 U	1400 U	390 U
2,4,6-Trichlorophenol	360 U	370 U	1400 U	1400 U	390 U
2,4,5-Trichlorophenol 800	D 016	930 U	3600 U	3600 U	U 076
2-Chloronaphthalene 330	360 U	370 U	1400 U	1400 U	390 U
2-Nitroaniline 800		930 U	3600 U	3600 U	D 070
Acenaphthylene 330	360 U	370 U	1400 U	1400 U	390 U
Dimethylphthalate 330	360 U	370 U	1400 U	1400 U	390 U
2,6-Dinitrotoluene 330	360 U	370 U	1400 U	1400 U	390 U
Acenaphthene 330	360 U	370 U	1400 U	1400 U	390 U
3-Nitroaniline 800	910 U	930 U	3600 U	3600 U	D 070
2,4-Dinitrophenol 800	910 U	930 U	3600 U	3600 U	040 U
Dibenzofuran 330	360 U	370 U	1400 U	1400 U	390 U
2,4-Dinitrotoluene 330	360 U	370 U	1400 U	1400 U	390 U
4-Nitrophenol 800	D 016	930 U	3600 U	3600 U	U 076
Fluorene 330	360 U	370 U	58 J	39 J	390 U

Semivolatile Organic Compounds						
Site	_	oc	۰	t	•	
Location		SB10	SB10	940	1	7
Sample Denth		olds	3B10	SBS	SBS	SB5
outper Deput		4.3-6.3	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number		8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3
Laboratory Sample ID		9605024-09	9605024-08	9604830-03	9604830-02	9604830-01
Matrix		lios	lios	soil	lios	lios
Date Sampled		4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed	_	5/16/96	5/16/96	96/01/5	5/10/96	5/24/96
	CRQL					
4-Chlorophenyl-phenylether	330	360 U	370 U	1400 U	1400 U	390 U
Diethylphthalate	330	360 U	370 U	1400 U	1400 U	13068
4-Nitroaniline	008	910 U	930 U	3600 U	3600 U	11 026
4,6-Dinitro-2-methylphenol	800	010 U	930 U	3600 U	3600 U	D 079
n-Nitrosodiphenylamine	330	360 U	370 U	1400 U	1400 U	390 U
4-Bromophenyl-phenylether	330	360 U	370 U	1400 U	1400 U	390 U
Hexachlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
Pentachlorophenol	008	910 U	930 U	3600 U	3600 U	U 079
Phenanthrene	330	360 U	370 U	93 J	1400 U	390 U
Anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Carbazole	330	360 U	370 U	1400 U	1400 U	390 U
Di-n-butylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
Fluoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Pyrene	330	360 U	370 U	1400 U	1400 U	5 J
Butylbenzylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
3,3'-Dichlorobenzidine	330	360 U	370 U	1400 UJ	1400 UJ	390 UJ
Benzo[a]anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Chrysene	330	360 U	370 U	1400 U	1400 U	390 U
bis(2-Ethylhexyl)phthalate	330	360 U	370 U	1400 U	590 J	390 U
Di-n-octylphthalate	330	5 J.	370 U	1400 U	1400 U	390 U
Benzol b Jiluoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Benzolk Huoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Benzo[a]pyrene	330	360 U	370 U	1400 U	1400 U	390 U
Indeno[1,2,3-cd]pyrene	330	360 U	370 U	1400 U	1400 U	390 U
Dibenz[a,h]anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Benzolg, h, 1]perylene	330	360 U	370 U	1400 U	1400 U	390 U
Total TIC concentration		893	1006	60840	85400	7412
Units (ug/kg) Soil, (ug/L) Water Dilution Factor	ug/kg	-	-	•		
Sample Weight/Volume		300 2	1 000	4 000	4	1
% Moisture		al) o	30.08	30.08	30.0g	30.0 g
	_	o	10	ю	×	14

Semivolatile Organic Compounds					
Site	9	9	9	9	9
Location	SB16	SB16	SB16	DWI	DW1
Sample Depth	8.5-9.5	3.9-4.5	0.9-3.9	7.3-7.6	4.1-4.6
Sample Number	6-SB16-8.5-9.5	6-SB16-3.9-4.5	6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DWI-4.1-4.6
Laboratory Sample ID	9605024-03	9605024-02	9605024-01	9604830-05	9604830-04
Matrix	lios	soil	lios	soil	lios
Date Sampled	4/30/96	4/30/96	4/30/96	4/27/96	4/21/96
Date Analyzed	5/15/96	8/15/96	2/12/96	2/10/96	9/10/96
bis(2-Chloroethyl)ether 330		370 U	380 U	1500 U	3700 U
Phenol 330	360 U	370 U	380 U	1500 U	3700 U
2-Chlorophenol 330	360 U	370 U	380 U	1500 U	3700 U
1,3-Dichlorobenzene 330	360 U	370 U	380 U	1500 U	3700 U
1,4-Dichlorobenzene 330	360 U	370 U	380 U	1500 U	3700 U
1,2-Dichlorobenzene 330	360 U	370 U	380 U	1500 U	3700 U
2,2'-oxybis(1-chloropropane) 330	360 U	370 U	380 U	1500 U	3700 U
2-Methylphenol 330	360 U	370 U	380 U	1500 U	3700 U
Hexachloroethane 330	360 U	370 U	380 U	1500 U	3700 U
N-Nitroso-di-n-propylamine 330	360 U	370 U	380 U	1500 U	3700 U
4-Methylphenol	360 U	370 U	380 U	1500 U	3700 U
Nitrobenzene 330	360 U	370 U	380 U	1500 U	3700 U
Isophorone 330		370 U	380 U	1500 U	3700 U
2-Nitrophenol 330		370 U	380 U	1500 U	3700 U
2,4-Dimethylphenol		370 U	380 U	1500 U	3700 U
bis(2-Chloroethoxy)methane 330	360 U	370 U	380 U	1500 U	3700 U
		370 U	380 U	1500 U	3700 U
1,2,4-Trichlorobenzene 330		370 U	380 U	1500 U	3700 U
		370 U	380 U	1500	11000
4-Chloroaniline 330		370 U	380 U	1500 U	3700 U
Hexachlorobutadiene 330		370 U	380 U	1500 U	3700 U
4-Chloro-3-methylphenol		370 U	380 U	1500 U	3700 U
2-Methylnaphthalene 330		370 U	380 U	1500	12000
Hexachlorocyclopentadiene 330	360 U	370 U	380 U	1500 U	3700 U
		370 U	380 U	1500 U	3700 U
2,4,5-Trichlorophenol 800		920 U	050 U	3700 U	9200 U
2-Chloronaphthalene 330		370 U	380 U	1500 U	3700 U
2-Nitroaniline 800	D 006	920 U	950 U	3700 U	9200 U
Acenaphthylene 330	360 U	370 U	380 U	1500 U	3700 U
Dimethylphthalate 330		370 U	380 U	1500 U	3700 U
2,6-Dinitrotoluene 330	360 U	370 U	380 U	1500 U	3700 U
Acenaphthene 330	360 U	370 U	380 U	1500 U	3700 U
3-Nitroaniline 800	D 006	920 U	050 U	3700 U	9200 U
2,4-Dinitrophenol 800	D 006	920 U	950 U	3700 U	9200 U
Dibenzofuran 330		370 U	380 U	1500 U	3700 U
2,4-Dinitrotoluene 330		370 U	380 U	1500 U	3700 U
4-Nitrophenol 800		920 U	950 U	3700 U	9200 U
Fluorene 330	1 960 U	370 U	380 U	40 J	3700 U

Semivolatile Organic Compounds						
Site	_	9	v		•	
Location		SB16	SB16	2,42	0	9
Sample Depth		\$ 6.0 8	30.45	3510	DWI	DWI
Sample Number		6.7-0.9	5.4-4.3	0.9-3.9	7.3-7.6	4.1-4.6
I aboutous Samuels ID		6-51516-8.5-9.5	6-SB16-3.9-4.5	6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DW1-4.1-4.6
Marin		9605024-03	9605024-02	9605024-01	9604830-05	9604830-04
Maintx		lios	lios	lios	soil	io
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96	4/77/4
Date Analyzed	_	5/15/96	5/15/96	5/15/96	5/10/96	5/10/96
	CROL					
4-Chlorophenyl-phenylether	330	360 U	370 U	380 U	1500 U	3700 11
Diethylphthalate	330	360 U	370 U	380 U	1500 U	3700 11
4-Nitroaniline	800	Ω 006	920 U	950 U	3700 U	9200
4,6-Dinitro-2-methylphenol	800	D 006	920 U	950 U	3700 11	0.0027
n-Nitrosodiphenylamine	330	360 U	370 U	380 U	1500 11	3700 11
4-Bromophenyl-phenylether	330	360 U	370 U	380 U	1500 11	3700 11
Hexachlorobenzene	330	360 U	370 U	380 U	1500 U	3700 11
Pentachlorophenol	800	D 006	920 U	950 U	3700 U	9200
Phenanthrene	330	360 U	370 U	380 U	1500 U	3700 11
Anthracene	330	360 U	370 U	380 U	1500 U	3700 11
Carbazole	330	360 U	370 U	380 U	1500 U	3700 11
Di-n-butylphthalate	330	360 U	370 U	380 U	120 J	220.1
Fluoranthene	330	360 U	370 U	380 U	1500 U	3700 11
Fyrene	330	360 U	370 U	380 U	1500 U	3700 11
Butylbenzylphthalate	330	360 U	370 U	380 U	1500 U	3700 11
3,3-Dichlorobenzidine	330	360 UJ	370 UJ	380 UJ	1500 UJ	3700 111
Benzo[a]anthracene	330	360 U	370 U	380 U	1500 U	3700 11
Chrysene	330	360 U	370 U	380 U	1500 U	3700 11
bis(2-Ethylhexyl)phthalate	330	190 J	\$60 J	280 J	190 J	2900 I
Di-n-octylphthalate	330	360 U	50 J	1 61	1500 U	3700
Benzol b Illuoranthene	330	360 U	370 U	380 U	1500 U	3700 U
Denzolkjiluoranunene	330	360 U	370 U	380 U	1500 U	3700 13
Benzola Jpyrene	330	360 U	370 U	380 U	1500 U	3700 U
maenol 1, 2, 3-cd jpyrene	330	360 U	370 U	380 U	1500 U	3700 11
Dibenz[a,h]anthracene	330	360 U	370 U	380 U	1500 U	3700 1
Benzolg,h,1]perylene	330	360 U	370 U	380 U	1500 U	11 007£
I otal TIC concentration		59210	1641	3481	143500	314300
Units (ug/kg) Soil, (ug/L) Water	ug/kg					000110
Dilution Factor		1	1		4	10
Sample Weight/Volume		30.0 g	30.0g	30.0 g	30.0 g	30.08
% Moisture		7	6	12	6	6

JP4, Gas, Diesel, Oil	٠				
Site		∞	<b>∞</b>	•	∞
Location			SB9	SB9	SB9
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04
Matrix		water	soil	lios	lios
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		9/6-10/96	5/9-17/96	5/9-17/96	8/9-17/96
	* RL				William Co.
JP-4	10	0.25 U	11 U	11 U	11 U
Diesel range, as diesel	10	0.25 U	11 U	11 U	U 11 U
Oil range, as oil	100	1 0	U 011	110 U	110 U
Gasoline range	5	0.25 U	5.4 U	5.5 U	5.7 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture			<b>0</b> 0	6	12
* RL - Reporting Limit	_				

Site		00	000	•	•
Location		SB10	SB10	SB10	CBS
Sample Depth		6.6-6	4.5-6.5	1-3	98-8
Sample Number		8-SB10-9-9.9	8-SB10-4.5-6.5	8-SB10-1-3	7.SR5.8.8 6
Laboratory Sample ID		9605024-10	9605024-09	9605024-08	9604830-03
Matrix		lios	soil	lios	lios
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96
Date Analyzed		5/10-17/96	5/10-17/96	5/10-1/96	\$6/10-18/96
	* RL				
JP-4	10	11 U	12 U	11 U	530
Diesel range, as diesel	10	11 U	12 U	11 0	510
Oil range, as oil	100	110 U	120 U	110 U	3800
Gasoline range	5	5.4 U	0.1 U	1195	IN 092
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		•	∞_	9	ox
* RL - Reporting Limit				•	,

JP4, Gas, Diesel, Oil					
Site		7	7	9	<b>9</b> 9
Location		SB5	SB5	SB16	SB16
Sample Depth		4.5-5.4	1-3.	8.5-9.5	3.9-4.5
Sample Number		7-SB5-4.5-5.4	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3.9-4.5
Laboratory Sample ID		9604830-02	9604830-01	9605024-03	9605024-02
Matrix		lios	soil	lios	soil
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96
Date Analyzed		5/10-18/96	5/9-17/96	5/10-18/96	5/9-17/96
	* RL				
JP-4	10	092	12 U	270	11 U
Diesel range, as diesel	10	790	12 U	130	. 17
Oil range, as oil	100	7800	120 U	300	110 U
Gasoline range	5	1200 NJ	5.8 U	460 NJ	5.5 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		∞	14	7	6
* RL - Reporting Limit	_				

	ſN
6 DW1 4.1-4.6 6-DW1-4.1-4.6 9604830-04 soil 4/27/96 5/10-20/96	5700 1900 10000 7300 NJ
6 DW1 7.3-7.6 6-DW1-7.3-7.6 9604830-05 soil 4/27/96 \$/10-20/96	1300 400 540 1700 NJ
6 SB16 0.9-3.9 6-SB16-0.9-3.9 9605024-01 soil 4/30/96 5/9-17/96	11 U 11 U 110 U 5.7 U
* RL	10 10 100 5 mg/kg
Site Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed	JP-4 Diesel range, as diesel Oil range, as oil Gasoline range Units (mg/kg) Soil, (mg/L) Water % Moisture * R1 Renorting I imit

Stife controlled         NIVIS AND TATE AND	Volatile Organic Compounds	-					
Apply apply and a post of standard and and a post of standard and a	Site		7	7	1	9	9
Color	Location	-	MWS	MW4	MW2	MW3	MW3
CAMPA-2015   CAM	Sample Depth		20.5	20.5	20.5	20.5	20.5
Colored   Colo	Sample Number		7-MWS-20.5	7-MW4-20.5	7-MW2-20.5	6-MW3-20.5RE	6-MW3-20.5
CROLL  CROLL  CROLL  Score  Sc	Laboratory Sample ID		9605104-05	9605104-04	9605104-03	9605104-02RE	9605104-02
Color   Colo	Matrix		soil	soil	soil	soil	soil
CROL   11	Date Sampled		4/29/96	4/28/96	4/28/96	4/29/96	4/29/96
10		to	96/9/\$	96/9/9	96/9/\$	96/6/5	9/6/9/5
10   11   11   11   11   11   11   11		10 10 10	11 U	11 U	011	54 U	11 UJ
there 10 110 110 110 550 110 650 110 650 110 650 110 110 110 550 110 650 110 110 110 110 550 110 650 110 110 110 110 550 110 550 110 650 110 110 110 110 550 110 550 110 650 1	Vinyl Chloride	10	D 11	D 11	11 U	54 U	11 UJ
there 10 111 111 111 111 111 551 111 5	Bromomethane	01		11 U	11 U	54 U	11 UJ
there 10 11 11 11 11 11 11 11 11 11 11 11 11	Chloroethane	01	11 U	11 U	11 U	54 U	11 03
10   11   11   11   11   11   12   280   1   1   1   1   1   1   1   1   1	1.1-Dichloroethene	01	11 U	11 U	11 U	54 U	11 UJ
10	Acetone	10	23	73	19	290 J	20 J
10   11   11   11   11   11   11   11	Carbon Disulfide	10	11 U	11 U	11 U	54 U	11 UJ
10	Methylene Chloride	01	11 U	11 U	11 U	28 J	11 UJ
10         2 J         53         2 J         53 J           corellane         10         11 U         11 U         54 U           achloride         10         11 U         11 U         54 U           schare         10         11 U         11 U         54 U           schare         10         11 U         11 U         54 U           schare         10         11 U         11 U         54 U           correction         11 U         11 U         54 U           dospopore         10         11 U         11 U         54 U           dospopore         10         11 U         11 U         54 U           dishopopore         10         11 U         11 U         54 U           dishopopore         10         11 U         11 U         54 U           dishopopore         10         11 U         11 U         54 U           scharcore         10         11 U         11 U         54 U           correction         10         11 U         11 U         54 U           scharcore         10         11 U         11 U         54 U           scharcoredina         10         11 U	1.1-Dichloroethane	01	11 U	11 U	11 U	54 U	11 UJ
10   11   11   11   11   11   11   11	2-Butanone	10	2 J	53	2 J	53 J	11 UJ
10	Chloroform	10	11 U	11 U	11 U	54 U	11 UJ
10	1,1,1-Trichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
10	Carbon Tetrachloride	10	111 U	11 U	11 U	54 U	11 UJ
10	Benzene	10	11 U	11 U	11 U	54 U	11 UJ
10	1,2-Dichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
10	Trichloroethene	10	11 U	11 U	11 U	54 U	11 UI
10	1,2-Dichloropropane	10	11 U	11 U	11 U	54 U	11 UJ
10	Bromodichloromethane	10	11 U	11 U	11 U	54 U	11 UJ
10         11 U         11 U         54 U           cne         10         11 U         11 U         54 U           11 U         11 U         11 U         3 J           1 I         1 I         1 I         3 J           1 I         2 I         3 J         1 I           1 I         2 I         3 J         1 I <t< th=""><th>cis-1,3-Dichloropropene</th><th>10</th><th>11 U</th><th>11 U</th><th>11 U</th><th>54 U</th><th>11 UJ</th></t<>	cis-1,3-Dichloropropene	10	11 U	11 U	11 U	54 U	11 UJ
10	4-Methyl-2-Pentanone	10	11 U	11 U	11 U	54 U	11 UJ
10	Toluene	10	11 U	1 J	1 J	2 J	11 U
10	trans-1,3-Dichloropropene	10	11 U	11 U	11 U	54 U	11 UI
10	1,1,2-Trichloroethane	01		11 U	11 U	54 U	11 UI
10	Tetrachloroethene	10		11 U	11 U	54 U	11 CI
10	2-Hexanone	10		15	11 U	54 U	11 UI
10	Dibromochloromethane	10		11 C	11 U	54 U	11 UJ
10	Chlorobenzene	01		11 U	11 U	54 U	11 UI
10	Ethylbenzene	10		11 U	11 U	54 U	11 CI
10	Styrene	10	11 U	11 U	11 U	54 U	11 UJ
10         11 U         11 U         54 U           10         11 U         11 U         54 U           10         1 J         11 U         3 J           10         1 J         3 J         14         1           1         1 S         86         0         74         1           1         1 I         1 I         1 I         1 I         1 I           5.0g         5.0g         5.0g         5.0g         1.0g         5.           12         7         7         7         7	Bromoform	10	11 U	11 U	11 U	54 U	11 UJ
10         11 U         11 U         54 U           10         1 J         11 J         3 J           10         1 J         1 J         74         1           1         1 J         1 J         1 J         1 J           5.0g         5.0g         5.0g         1.0g         5.1           12         7         7         7         7	1,1,2,2-Tetrachloroethane	10	11 U	, 11 U	11 U	54 U	11 UJ
10 1 1 1 1 1 3 1 14 14 14 14 14 14 14 14 14 14 14 14 1	1,2-Dichloroethene (total)	10	11 U	11 U	. 11 U	54 U	11 UJ
57     86     0     74       1     1     1       5.0g     5.0g     5.0g     1.0g       12     7     12     7	Xylene (total)	10	1.5	11 U	1.5	3 J	1 J
5.0g 5.0g 1.0g 1.0g 1.0g 1.0g 1.0g 1.0g 1.0g 1	Total TIC concentration		57	98	0	74	148
Volume 5.0g 5.0g 1.0 g 1.0 g 1.0 g 7 1.2 7 1.2	Units (ug/kg) Soil, (ug/L) Water				,		
5.0 g 5.0 g 5.0 g 1.0 g 7 7 12 7 7	Dilution Factor		1	-		1 ,	
, , , , , , , , , , , , , , , , , , , ,	Sample Weight/Volume		5.08	5.08	3.0.g	1:0 1:0	90.0
	% Moisture	-	71	•	3	•	

	vo	MW2	20	6-MW2-20	9605104-01	soil	4/29/96	96/9/9		10 U	1001	$\Omega_0$	11 01	N 01		11 01	1101	N 01	2.3	10 U	10 U	10 U	10 U	10 U	D 01	10 U	10 U	Ω 01	10 U		D 01	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 Π	10 U	10 U	))		 •
	9	MW3	20.5	6-MW3-20.5	9605104-02	lios	4/29/96	Composite result		11 W	11 UJ	11 UJ	11 UJ	11 UJ	20 J	11 03		11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 03	11 UJ	11 5		6 H	11 U	11 UJ	11 UI	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UJ	11 UI	1 J			
Volatile Organic Compounds					Laboratory Sample ID				CROL	10	01	10	01	1,1-Dichloroethene	10	Carbon Disulfide 10	Methylene Chloride 10	1,1-Dichloroethane	10	01	1,1,1-Trichloroethane	Carbon Tetrachloride 10	01	1,2-Dichloroethane	Trichloroethene 10			Cis-1,3-Dichloropropene 10		trans-1,3-Dichloropropene	1,1,2-Trichloroethane	Tetrachloroethene 10		Dibromochloromethane 10	10	10	10			1,2-Dichloroethene (total)	10	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	

Low Level Volatile Organic Compounds Site					
Location Sample Depth					
Sample Number		MANG-FB2-PWDL	MANG-FB2-PW	MANG-FB1-DI	FB-TB1
Laboratory Sample ID Matrix		9605075-02DL water	9605075-02 water	9605075-01 water	9605075-03 water
Date Sampled		5/1/96	\$/1/96	5/1/96	5/1/96
		96/6/8	9/8/9	2/8/96	9/8/9
	CRQL				
Chloromethane		2 U	1 U	0.06 J	1 U
Vinyl chloride	_	2 U	1 U	1 U	. 10
Bromomethane	_	2 U	1 U	1 U	1 U
Chloroethane	1	2 U	1 υ	1 U	1 U
1,1-Dichloroethene	_	2 U	1 U	1 U	1 U
Acetone	2	10 U	5 U	S U	\$ U
Carbon disulfide	1	2 U	1 U	1 0	1 U
Methylene chloride	7	4 U	0.1 J	0.05 J	0.14 J
trans-1,2-Dichloroethene	1	2 U	1 U	1 U	1 U
1,1-Dichloroethane		2 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	-	2 U	1 U	1 U	1 0
2-Butanone	<b>S</b>	10 U	s U	SU	SU
Bromochloromethane	-	2 U		1 U	1 U
Chloroform	_	34 D	32 E	0.15 J	1 U
1,2-Dichloroethane		2 U	1 U	1 U	1 C
1,1,1-Trichloroethane	-	2 U	1 U	1 D	1 U
Carbon tetrachloride	_	2 U	1 U	1 U	1 U
Benzene	_	2 U	I U	1 U	1 0
Trichloroethene	_	2 U	1 U	1 U	1 U
1,2-Dichloropropane	_	2 U	1 U	1 U	1 U
Bromodichloromethane	-	11 D	11	1 U	1 U
cis-1,3-Dichloropropene		2 U	1 U	1 U	1 U
4-Methyl-2-pentanone	\$	10 U	s u	\$ U	s U
Toluene		0.04 JD	0.04 J	0.21 J	0.03 J
trans-1,3-Dichloropropene	_	2 U	n 1	1 U	1 U
1,1,2-Trichloroethane	_	2 U	1 U	1 U	1 U
Tetrachloroethene	_	2 U	1 U	1 U	1 U
2-Hexanone	2	10 U	5 U	5 U	\$ U
Dibromochloromethane	-	1.4 JD	1.5	1 U	1 U
1,2-Dibromoethane	-	2 U	1 U	1 U	1 U
Chlorobenzene	1	2 U	1 U	1 U	1 U
Ethylbenzene	-	2 U	1 n	0.1 J	1 U
Styrene	-		1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	_	2 U	1 U	1 0	1 U

Site					
Location					
Sample Depth					
Sample Number		MANG-FB2-PWDL	MANG-FB2-PW	MANG-FBI-DI	FR.TR1
Laboratory Sample ID		9605075-02DL	9605075-02	9605075-01	50-5205096
Matrix		water	wafer	water	Totale.
Date Sampled		5/1/96	5/1/96	96/1/5	4/1/96
Date Analyzed		96/6/5	5/8/96	5/8/5	96/8/\$
	CRQL				
Bromoform		2 U	1 U	11 1	111
1,3-Dichlorobenzene	-	2 U	n I		
1,4-Dichlorobenzene	1	2 U	nı		
1,2-Dichlorobenzene	1	2 U	חו		
1,2-Dibromo-3-chloropropane	-	2 U	n I		
Xylene (total)	-	0.18 JD	0.26 J	I 68 0	
Total TIC concentration		0	0	C	
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		2		_	_
Sample Weight/Volume		75.0 27	1 0 30	1 0 30	

Continue	Low Level Volatile Organic Compounds					
oppid         AWA3 AWA1-GWI         AWA1 AWA1-GWI         GAWIV-LOWI         GATEBIA FAMBI-GWI         MANI AWA1-GWI         GAMIT-LOWI         GATEBIA GAWIV-LOWI         GAMIT-LOWI         GATEBIA GAWIV-LOWI         GAMIT-LOWI         GAMIT-LO	Site	_	7	7	9	68.7
TTBA   TAWA GANU-GWI	Location			MW3	MW1	
National Process   National Pr	Sample Depth					
Market   M	Sample Number		7-TB-A	7-MW3-GW1	6-MW1-GW1	6,7-TB1
cropolar         water states water st	Laboratory Sample ID		9605104-06	9605172-01	9605172-02	9605172-03
CROIL   SAGNA   SAGN	Matrix		water	water	water	water
1	Date Sampled		5/3/96	96/9/\$	96/9/\$	96/9/\$
the continue of the continue o			96/9/5	9/8/9	5/8/56	9/8/5
the center of th			1 U	1 U	1 U	1 0
10	Vinyl chloride	1	1 U	1 U	1 U	U 1
1	Bromomethane	1	1 U	1 U	1 U	1 U
1	Chloroethane	1	1 U	1 U	1 0	1 0
S 5 0	1,1-Dichloroethene		1 U	1 U	1 U	1 U
1	Acetone	2	5 U	æ	æ	S U
The control of the co	Carbon disulfide	_	1 U	1 U	1 U	1 U
10	Methylene chloride	2	0.36 BJ	2 U	2 U	0.24 J
1	trans-1,2-Dichloroethene	1	1 0	1 U	1 U	1 U
1	1,1-Dichloroethane	1	1 U	1 U	0.31 J	1 U
S S U R R R R R R R R R R R R R R R R R	cis-1,2-Dichloroethene	1	10	0.31 J	7.4	1 U
1	2-Butanone	2	2 U	R	<b>x</b>	SU
1	Bromochloromethane	-	1 0	1 U	1 U	1 U
1	Chloroform	1	1 0	0.05 J	1 U	1 U
1	1,2-Dichloroethane	1	1 U	1 U	1 U	1 U
1	1,1,1-Trichloroethane	1	1 U	1 0	1 U	1 U
1	Carbon tetrachloride		1 U	1 0	1 U	1 U
1	Benzene	1	1 U	1 U	1 U	1 U
1	Trichloroethene	1	1 U	1 U	1 U	1 U
1	1,2-Dichloropropane	1	1 U	1 U	1 U	1 U
1	Bromodichloromethane	-	1 U	1 C	1 U	1 U
5         5U         5U         5U         5U         5U         5U         5U         5U         6006         5U         1U	cis-1,3-Dichloropropene	-	1 U	1 U	1 U	1 U
1	4-Methyl-2-pentanone	2	5 U	2 U	\$ U	\$ U
1	Toluene	_	0.03 J	1 U	10	0.06 J
1	trans-1,3-Dichloropropene	-	1 U	1 U	1 U	1 U
methane         1         1 U         1 U         1 U         1 U         1 U         5 U         7 U         1 U </th <th>1,1,2-Trichloroethane</th> <th>-</th> <th>1 U</th> <th>1 U</th> <th>1 U</th> <th>1 U</th>	1,1,2-Trichloroethane	-	1 U	1 U	1 U	1 U
semethane         str         s	Tetrachloroethene		1 0	1 U	1 U	1 U
methane         1         1 U </th <th>2-Hexanone</th> <th>٠.</th> <th>5 U</th> <th>5 U</th> <th>SU</th> <th>S U</th>	2-Hexanone	٠.	5 U	5 U	SU	S U
lane         1         1 U	Dibromochloromethane .	-	1 U	1 U	1 U	1 0
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1,2-Dibromoethane	1	1 U	1 U	1 U	1 U
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Chlorobenzene	1	1 U	1 U	1 U	1 U
Tetrachloroethane 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1	Ethylbenzene	1	1 0	1 U	n <b>1</b>	1 0
1 10 10	Styrene		1 U	1 U	1 0	n I
	1,1,2,2-Tetrachloroethane	_	1 U	0.1	10	1 C

	6 MW1 6-MW1-GW1 9605172-02 water 5/6/96 5/8/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	7 MW3 7-MW3-GW1 9605172-01 water 5/6/96 5/8/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	7-TB-A 9605104-06 water 5/3/96 5/6/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	CRQL	Site Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed Bromoform 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Xylene (total) Total TIC concentration Units (ug/kg) Soil, (ug/L) Water
		1	1		Dilution Factor
		1	-		Dilution Factor
	-	-			Dilution Factor
					Inits (ug/kg) Soil, (ug/L) Water
	0	0	0		otal IIC concentration
			•	_	
	1 U	Ω1	1 U	-	(ylene (total)
	¥	¥	0 1	•	and object of the control of the con
	۵	0	11.1	_	.2-Dibromo-3-chloropropane
	10	10	10		,2-Dichlorobenzene
	0 1			-	
			11.1		4-Dichlorohanzana
	n i	1 U	1 U		,3-Dichlorobenzene
	1 U	1 U	10	_	sromotorm
				CRQL	
2/8/96	96/8/5	2/8/96	96/9/\$		Date Analyzed
9/6	2/9/9	96/9/\$	5/3/96		Jate Sampled
•			4		1.1.0
M	Water	water	water		Matrix
9605172	9605172-02	9605172-01	9605104-06		aboratory Sample ID
6,7-TB1	6-MW1-GW1	7-MW3-GW1	7-TB-A		sample Number
					sample Depth
	MW1	MW3			ocation
30	9	7	7		ile

1-MW2   1-MW	Low Level Volatile Organic Compounds Site		
1-MW2-GW1   9605104-07	Location	MW2	
thane thane 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	nple Depth nole Number	1-MW2-GW1	
CRQL   CRQL	ocratory Sample ID	9605104-07	
CRQL CRQL    1	trix	water	
cRQL  CRQL    1	te Sampled	2/2/96	
cRQL  interpreted by the control of		96/9/\$	
e in the control of t	CRQL		
	oromethane	10	
	lyl chloride	10	•
	omomethane 1	1.0	
	loroethane	n n	
	-Dichloroethene	1.0	
	etone 5	24	
	rbon disulfide	1.0	
	2 2	2 U	
	ns-1,2-Dichloroethene	1.0	
ane en e	-Dichloroethane 1	1.0	
bethane	1,2-Dichloroethene	1.0	
the chane	butanone 5	R	
Interceptane	omochloromethane 1	10	
charachlane	loroform 1	10	
the chlorocthane	-Dichloroethane 1	10	
bethene	,1-Trichloroethane	10	
1   1   1   1   1   1   1   1   1   1	bon tetrachloride	10	
Interpretation	Izene	10	
Interpretation	chloroethene	1 U	
chloromethane 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-Dichloropropane 1	nπ	
ichloropropene 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	modichloromethane 1	. 01	
-2-pentanone	1,3-Dichloropropene	1.0	
Dichloropropene 1	fethyl-2-pentanone 5	\$ U	
-Dichloropropene   1	uene 1	10	
chloroethane 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ns-1,3-Dichloropropene	10	
one 5 5 5 5 5 chloromethane 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,2-Trichloroethane	10	
one         5         5         5         5         5         chlorower         5         chlorower         1         2         2         2         2         2         2         2	rachloroethene 1	10	
romochloromethane         1         U           -Dibromoethane         1         1           Iorobenzene         1         1           Iorobenzene         1         1           Irin         1         1           rene         1         1           2,2-Tetrachloroethane         1         1	lexanone 5	S U	
Dibromoethane         1         U           Iorobenzene         1         U           Indicated by Spenier         1         I           Indicated by Spenier         1         I           Indicated by Spenier         1         I           Indicated by Spenier         I         I	romochloromethane 1	nι	
lorobenzene         l         l U           lylbenzene         l         l U           rene         l         l U           2,2.7-Tetrachloroethane         l         l	-Dibromoethane 1	10	
1 U           rene         1 U           1 U         1 U           2,2.Tetrachloroethane         1 U	lorobenzene	10	
rene 1 U 1 U	ylbenzene	10	
2,2-Tetrachloroethane 1 U	rene	lυ	
	2.2-Tetrachloroethane	10	

-	MW2		I-MW2-GW1	9605104-07	water	5/2/96	9(9)8		1 0	חו	n n	U 1	~	10	0		-	
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed	CRQL	Bromoform	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	Xylene (total)	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Sample Weight/Volume

Semivolatile Organic Compounds	_			
Location				
Sample Depth				
Sample Number	MANG-FB2-PW		MANG-FB1-DI	
Laboratory Sample ID	9605075-02	75-02	9605075-01	
Matrix		water	Water	
Date Sampled		\$/1/96	96/1/9	
Date Analyzed		2/16/96	96/91/9	
C	CRQL			
bis(2-Chloroethyl)ether	10	10 U	10 U	
Phenol	10	10 U	10 U	
2-Chlorophenol	10	10 U	10 U	
zene	10	10 U	10 U	
1,4-Dichlorobenzene	01	10 U	10 U	
1,2-Dichlorobenzene	10	10 U	10 U	
2,2'-oxybis(1-chloropropane)	10	10 U	10 U	
2-Methylphenol	01	10 U	10 U	
9	10	10 U	10 U	
N-Nitroso-di-n-propylamine	- 2	10 U	10 U	
	10	10 U	10 U	
	10	10 U	10 U	
	10	10 U	10 U	
Į.	- 01	10 U	10 U	
hemol	10	10 U	10 U	
methane	10	10 O	10 U	
	10	101	10 11	
404	10	10 11	10 17	
	0,	0 01	11 01	
•	2 2			
1	0.1		1 9	
	0.1	0.01	100	
1011	01			
	2 5			
nene	0.5			
	2, 2,	11 %	24 11	
	3 9	0 67		
halene	01	0 01	10.0	
	25	25 U	72 0	
	10	10 U	10 U	
	10	10 U	10 U	
2,6-Dinitrotoluene	10	10 U	10 U	
Acenaphthene	10	10 U	10 U	
3-Nitroaniline	25	25 U	25 U	
nol	25	25 U	25 U	
	10	10 U	10 U	
iene	10	10 U	10 U	
	25	25 U	25 U	
Florene	01	10 U	D 01	
Thorond T	-			

Semivolatile Organic Compounds Site

Matrix           Date Sampled           Date Analyzed           CRQL           4-Chlorophenyl-phenylether         10           Dicthylphthalate         10           Dicthylphthalate         25           4. 6-Dinitro-2-methylphenol         25           n-Nitrosodiphenylamine         10           Hexachlorobenzene         10           Phenanthrene         10           Anthracene         10           Carbazole         10           Di-n-butylphthalate         10           Pyrene         10           Pyrene         10           Pyrene         10	water 5/1/96 5/16/96 10 U 25 U 25 U 10 U 10 U 10 U	water 5/1/96 5/16/96 5/16/96 10 U 25 U 25 U 10 U 10 U 10 U 10 U 10 U	
	5/1/96 \$/16/96 10 U 25 U 25 U 10 U 10 U 10 U 10 U	5/1/96 5/16/96 10 U 25 U 25 U 10 U 10 U 10 U	
	5/16/96 10 U 25 U 25 U 10 U 10 U 10 U 10 U 10 U 10 U	5/16/96 10 U 10 U 25 U 25 U 10 U 10 U 10 U 10 U 10 U 10 U	
	10 U 10 U 25 U 25 U 10 U 10 U 10 U 10 U	10 U 25 U 25 U 10 U 10 U 25 U 25 U	
·	10 U 10 U 25 U 25 U 10 U 10 U 10 U	10 U 25 U 25 U 10 U 10 U 25 U 10 U	
	10 U 25 U 25 U 10 U 10 U 10 U 25 U	10 U 25 U 25 U 10 U 10 U 25 U	
·	25 U 25 U 10 U 10 U 10 U 22 U	25 U 25 U 10 U 10 U 25 U	
	25 U 10 U 10 U 10 U 22 U	25 U 10 U 10 U 25 U 10 U	
	10 U 10 U 10 U 25 U	10 U 10 U 10 U 25 U	
	10 U 10 U 25 U	10 U 10 U 25 U 10 U	
	10 U 25 U	10 U 25 U 10 U	
	25 U	25 U 10 U	
		10 U	
	10 0		
	10 U	10 U	
	10 U	10 U	
	1 BJ	10 U	
10	10 U	10 U	
	10 U	10 U	
Butylbenzylphthalate 10	10 U	10 U	
3,3'-Dichlorobenzidine	10 U	10 U	
Benzo[a]anthracene	10 U	10 U	
Chrysene 10	10 U	10 U	
bis(2-Ethyfhexyl)phthalate 10	1 BJ	1 BJ	
	10 U	10 U	
Benzo[b]fluoranthene	10 U	10 U	
Benzo[k]fluoranthene 10	10 U	10 U	
Benzo[a]pyrene 10	10 U	10 U	
Indeno[1,2,3-cd]pyrene	10 U	10 U	
9	10 U	10 U	
Benzo[g,h,i]perylene 10	10 U	10 U	
Total TIC concentration	61	∞	
Units (ug/kg) Soil, (ug/L) Water ug/L			
Dilution Factor	1		
Sample Weight/Volume	1000 mL	1000 mL	

MANG-FB1-DI 9605075-01 water 5/1/96	5 U 1 U	4.4 B	0.3 U	2 U	0 9	4 B	1 U	0.2 U	5 U	D I	3 U	2 U	11.5 B	0
MANG-FB2-PW 9605075-02 water 5/1/96	5 U 1.8 BW	57.8 B	0.3 U	2 U	7 B	8.7 B	1.3 B	0.2 U	D S	1 UW	3 U	2 UW	288	0
CRDL	* 6 10	200	* 4	2	10	25	8	0.2	40	80	10	* 2	20	ug/L
Inorganics Site Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled	Antimony	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Units (mg/kg) Soil, (ug/L) Water % Solids * Project-specific CRDL

Low Level Volatile Organic Compounds					
Site				7	7
Location				MW5	MW4
Sample Depth					
Sample Number		TB-C	TB-B	7-MWS-GW1	7-MW4-GW1
Laboratory Sample ID		9605398-05	9605398-10	9605398-03	9605398-01
Matrix		water	water	water	water
Date Sampled		5/13/96	5/14/96	5/13/96	5/13/96
Date Analyzed	_	5/15/96	2/12/96	5/15/96	2/12/96
	CROL	-	111	111	111
Chioromethane				0 ;	
Vinyl chloride		D :	10	1 0	) )
Bromomethane		n <b>1</b>	n 1	1 U	10
Chloroethane	-	1 C	10	1 U	1 n
1,1-Dichloroethene		1 U	1 U	1 U	1 U
Acetone	1	10	1 U	1.4 J	1.7 J
Carbon disulfide	1	1 U	1 U	1 U	D I
Methylene chloride	2	0.16 BJ	0.94 BJ	2 U	2 U
trans-1,2-Dichloroethene	-	1 U	10	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	10	10
cis-1,2-Dichloroethene	1	1 U	10	10	1.2
2-Butanone	2	5 U	D S	2	0.68 J
Bromochloromethane	1	1 U	10	10	1 U
Chloroform	-	1 U	1 0	0.21 J	1 U
1,2-Dichloroethane	-	1 n	1 U	1 U	1 0
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 0	1 U	10
Benzene	1	1 U	0.03 J	1 U	0.39 J
Trichloroethene		1 U	1 U	1 0	0.18 J
1,2-Dichloropropane		1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	10	1 U
cis-1,3-Dichloropropene		1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	2	S U	SU	0.32 J	2 U
Toluene	1	0.01 J	0.06 J	1 0	1 U
trans-1,3-Dichloropropene		1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1.0	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	10	1 U
2-Hexanone	2	S U	5 U	2 U	2 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U
Chlorobenzene		1 U	1 U	1 U	1 0
Ethylbenzene	-	1 U	1 U	U U	1 U
Styrene	-	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 -	1 U	1 U	1 0	1 U

,,	7 MW5 7-MW5-GW1 9605398-03 water 5/13/96 5/15/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	TB-B 9605398-10 water 5/14/96 5/15/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	TB-C 9605398-05 water 8/13/96 8/15/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U	CROL 1 1 1 1 1 1	Sample Depth Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed Bromoform 1,3-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dithlorno-3-chloropropane Xylene (total) Total TIC concentration Units (ug/kg) Soil, (ug/L) Water
	1	1	1		Charlest Factor
		_	-		Dilation I actor
					Dilution Factor
					Units (ug/kg) Soil, (ug/L) Water
	7	0	0	ng/L	10tal 11C concentration
,	•			1/	Total TIC concentration
0.23 1	1 0	10	) I	<u> </u>	Aylene (total)
	:		***	-	Vylana (total)
	~	10	0 1	_	1,4-Dioromo-3-chioropropane
	•	,			1 0 Ditame 7 ablances
	111	1 0	D I	_	1,2-Dichlorobenzene
	0.1	0 1			
		11.1	III	_	I,4-Dichlorobenzene
	D I	10	0.1	1	1,7-Diction obclicate
				•	1 3. Dioblorohomano
		1 U	1 U	-	Bromoform
				CROL	
5/15/96	5/15/96	5/15/96	5/15/96	_	Date Analyzed
2/13/	5/13/96	3/14/90	OCICIIC		
		201113	20/11/05	_	Date Samuled
water	water	water	Waler		Vinni
9/200/			1.4		Matrix
9605398-01	9605398-03	9605398-10	9605398-05		Laboratory Sample ID
7-MW4-GW1	7-MW5-GW1	TB-B	TB-C		Sample Number
					Sample Depth
MW4	MWS				LOCALIOII
					Location
	•				Site

				MANG-FB1-DI	9605075-01	water	9/1/9	2/6-17/96		0.25 U	0.25 U	0.25 U	1 U		100	
,				MANG-FB2-PW	9605075-02	water	96/1/9	5/6-17/96			6 0.25 U		1 U		100	
JP4, Gas, Diesel, Oil	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed	* RL	Diesel range, as diesel 0.25	Gasoline range 0.25		Oil range, as oil	Units (mg/kg) Soil, (mg/L) Water	% Moisture	

CROL	MW2 MW2-GW1 9605398-06 water \$/12/96 \$/15/96 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U 1 U	6-MW2-GW1 9605398-08 water \$/13/96 \$/15/96 \$/15/96 \$/15/96 \$/10 1 U 1 U 1 U 1 U 2 U 2 U 2 U 1
CRQL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
CRQL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
CRQL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 U 1 U 1 U 1 U 5 J 1 U 2 U 2 U 1 U 1 U 1 U
	10 10 10 10 18 10 10 20 10	1 U 1 U 1 U 2 U 2 U 2 U 1 U 1 U 1 U
1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 10 18,1 10 20 10 10	1 U 1 U 1 U 5 J 1 U 2 U 2 U 1 U 1 U 1 U
1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 10 1.8 J 10 2 U 1 U	1 U 5 J 1 U 2 U 2 U 1 U 1 U 1 U
	10 1.8 J 10 2 U 1 U	1 U 5 J 1 U 2 U 1 U 0.28 J 1 U 1 U
1 2 1 1 2 1 1	1.8 J 1 U 2 U 1 U 1 U	5 J 1 U 2 U 1 U 0.28 J 1 U 1.1 J
1 2 1 1 2 1	10 20 10 10	1 U 2 U 1 U 0.28 J 1 U 1.1 J
2 - 1 - 1 - 2	2 U 1 U	2 U 1 U 0.28 J 1 U 1.1 J
	1 U	1 U 0.28 J 1 U 1.1 J
	1 U	0.28 J 1 U 1.1 J
- 25		1.1 J
. 1	1 U	1.1 J
	0.79 J	
	1 0	10
1	1 U	1 U
1	1 U	1 U
1	1 U	1 U
-	1 U	10
1	5.5	1 U
	1 U	0.52 J
-1	1 U	1 0
	1 U	1 U
_	1 U	10
\$	0.47 J	2.5 J
1	1 U	1 U
1	1 U	1 U
-	1 U	1 U
1	1 U	1 U
\$	S U	5 U
1	1 U	1 0
-	1 U	1 U
-	1 U	1 U
-	23	1 U
1	1 U	1 U
-	1 U	1 U

9	MW2		6-MW2-GWI	9605398-08	water	5/13/96	5/15/96		1 U	1.0	10	10	24	0.51 J	73		<b>,</b>	
7	MW2		7-MW2-GW1	9605398-06	water	5/12/96	5/15/96		1 U	1 U	10	1 U	~	8.6	72		1	1000
				•				CRQL	-	ı	1	_	-	1	ng/L			
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Bromoform	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	Xylene (total)	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Cample Volume

Semivolatile Organic Compounds	•				``	
Site		7	7	7	9	
Location		MW5	MW4	MW2	MW2	
Sample Depth						
Sample Number		7-MW5-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1	
Laboratory Sample ID		9605398-03	9605398-01	9605398-06	9605398-08	
Matrix		water	water	water	water	
Date Sampled		5/13/96	5/13/96	5/12/96	5/13/96	
Date Analyzed	_	5/23/96	5/23/96	5/23/96	5/23/96	
	CRQL					
bis(2-Chloroethyl)ether	10	10 O	10 U	10 U	10 U	
Phenol	10	10 U	10 U	10 U	10 U	
2-Chlorophenol	10	10 U	10 U	10 U	10 U	
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U	
1,4-Dichlorobenzene	10	10 O	10 U	10 U	10 U	
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U	
2,2'-oxybis(1-chloropropane)	10	10 U	10 U	10 U	10 U	
2-Methylphenol	10	10 U	10 U	10 U	10 U	
Hexachloroethane	10	10 U	10 U	10 U	10 U	
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U	
4-Methylphenol	10	10 U	10 U	10 U	10 U	
Nitrobenzene	10	10 U	10 U	10 U	10 U	
Isophorone	10	10 U	10 U	10 U	10 U	
2-Nitrophenol	10	11 01	10 11	10 O	10 U	
2.4 Dimethylphonol	2 5	101	11 01	11 01	1101	
2,4-Dineuryphonol	2 5		201	11 01	1001	
os(2-Chloroemoxy)mentane	2 2			200	11 91	
2,4-Lycniorophenoi	2 9				101	
1,2,4-Inchlorobenzene	2 9	001				
Naphthalene	0 ;	0.01	0.01	0.01	10.0	
4-Chloroaniline	10	D 01	0.01	0.01	0.01	
Hexachlorobutadiene	10	10 U	D 01	10 U	10 U	
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U	
2-Methylnaphthalene	10	10 U	I I	10 U	10 U	
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U	
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U	
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U	
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U	
2-Nitroaniline	25	25 U	25 U	25 U	25 U	
Acenaphthylene	10	10 U	10 U	10 U	10 U	
Dimethylphthalate	10	10 U	10 U	10 U	10 U	
2.6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	
Acenaphthene	10	10 U	1.5	10 U	10 U	
3-Nitroaniline	25	25 U	25 U	25 U	25 U	
2.4-Dinitrophenol	25	25 U	25 U	25 U	25 U	
Dibenzofuran	10	10 U	1 J	10 U	10 U	
2 4-Dinitrotoliene	2 2	10 O	001	10 U	10 U	
A-Miwanhenol	25	25 11	25 11	25 17	25 U	
4-ivinophenoi	67	257	0 57	0 67	1101	
Fluorene	<b>-</b> 01	0 01	• 1		0 01	

State of Number         TAMV94-GWI         TA	Semivolatile Organic Compounds Site Location Sample Denth	7 MW5	7 MW4	7 MW2	€ 6 MW2	
9605398-03 9605398-04 9605398-05		7-MWS-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1	
Mariet		9605398-03	9605398-01	9605398-06	9605398-08	
\$13.96     \$13.96     \$13.96       \$23.96     \$13.96     \$13.96       \$23.96     \$13.96     \$13.96       \$1     1     10       \$1     1     10       \$2     \$2     \$2		water	water	water	Water	
10		5/13/96	5/13/96	\$/12/96	5/13/96	
15 U 10 U	-	\$/23/96	5/23/96	5/23/96	\$/23/96	
1 J 1 J 1 J 10 U 10 U 10 U 10 U 10 U 10	CKOL.					
25 U	01	0 01	10 U	10 U	10 U	
25 U	0 1	I I	1 1	10 U	1.3	
25 U 25 U 25 U 10	25	25 U	25 U	25 U	25 U	
10 U	25	25 U	25 U	25 U	25 U	
10 U	10	10 U	10 U	10 U	10 01	
10 U 10 U 25 U 25 U 25 U 10 U 1	10	10 U	10 U	10 U	U 01	
25 U 25 U 25 U 10 U 1	01	10 U	10 U	10 U	D 01	
10 U	25	25 U	25 U	25 U	25 U	
10 U	10	10 U	10 Ü	10 U	10 D	
10 U	10	10 U	10 U	10 U	10 U	
10 U	10	10 U	10 U	10 U	10 01	
10 U	10	10 U	10 U	10 U	10 n	
10 U	10	10 U	10 U	10 U	10 U	
10 U	10	10 U	10 U	10 U	10 U	
10 UJ	10	10 U	10 U	10 U	D 01	
10 U	10	10 UI	10 UJ	10 UJ	10 01	
10 U	01	10 U	10 U	10 U	10 U	
10 U	10	10 U	10 U	10 U	10 01	
10 U	01	10 D	10 U	10 U	10 U	
10 U	10	10 U	10 U	10 U	10 01	
10 U	10	10 U	10 U	10 U	10 01	
10 U	10	10 U	10 U	10 U	10 U	
10 U	01	10 U	10 U	10 U	10 U	
10 U	01	10 U	10 U	10 U	10 01	
10 U 10 U 10 U 394 33 10 U 1	01	10 U	10 U	10 U	10 U	
394 249 43 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10	10 U	10 U	10 U	10 U	
1000 1 1000	ng/L	394	249	43	1023	
10001		-		•	,	
		1000	1 0001	1	1	

Inorganics	•				
Site		7	7	7	7
Location		MW5	MWS	MW4	MW4
Sample Depth					
Sample Number		7-MW5-GW1 (Diss.)	7-MW5-GW1	7-MW4-GW1 (Diss.)	7-MW4-GW1
Laboratory Sample ID		9605398-04	9605398-03	9605398-02	9605398-01
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/13/96	5/13/96
Date Analyzed		5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96
	CRDL				
Antimony	9*	s UJ	rn s	S UJ	s UJ
Arsenic	01	1 U	1 U	1 U	10
Barium	200	103 J	147 J	160 J	380
Beryllium	*	0.3 U	0.3 J	0.3 U	1.6 J
Cadmium	٠,	2 U	2.7 U	2.5 U	2 U
Chromium	10	0.6 U	10.6 U	8.4 U	33.5 U
Copper	25	4 U	f 6.9	U 4	27.9
Lead	3	n 1	2.2 J	1 U	10
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	0 S	6.5 U	7.1 U	60.4
Selenium	2	I UI	1 UJ	1 UI	1 53
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	12.2 U	30.6 U	42.8	205
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	7/gn				

Inorganics					
Site		7	7	v	4
Location		WW2	CMW	e const	
Sample Depth			7 M M	MWZ	MW2
Sample Number		7-MW2-GW1 (Diss.)	7-Ww2-GW1	6-MW2-GW1 (Dies.)	Timo ciny
Laboratory Sample ID		9605398-07	9605398-06	9605398-09	0.405.00 O
Matrix		wafer	water	NO-DATE OF THE PARTY OF THE PAR	80-825005
Date Sampled		5/12/96	5/12/96	5/13/96	Waler 5/13/96
Date Analyzed		5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96
	CRDL				
Antimony	9*	s UJ	\$ UJ	In §	111 5
Arsenic	10	1 U	1 0	III	iii 1
Barium	200	f 96	108 J	I 19	202
Beryllium	* 4	0.3 U	0.3 U	0.3 U	180
Cadmium	۰,	2 U	2.9 U	2.9 U	2 11
Chromium	10	n 9	Ω9	8.4 U	17.5 U
Copper	25	4 U	4 U	4 U	11.3 J
Lead	3	1 0	1 U	1 0	4.4
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	10.1 U	21 U
Selenium	\$	1 UJ	1 UJ	1.2 J	
Silver	10	3 C	3 U	DE	n e
Thallium	*2	2 UJ	2 UJ	2 UJ	2 111
Zinc	20	9009	73.7	57.1	107
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	ng/L				

JP4, Gas, Diesel, Oil					
Site		7	7	7	9
Location		MW5	MW4	MW2	MW2
Sample Depth					
Sample Number		7-MW5-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-03	9605398-01	9605398-06	9605398-08
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/12/96	5/13/96
Date Analyzed	-	5/18-23/96	5/17-23/96	5/18-23/96	5/18-23/96
	* RL				
Diesel range, as diesel	0.25	0.25 U	0.34	0.25 U	0.35 NJ
Oil range, as oil	_	1 U	1 U	1 U	0.1
JP-4	0.25	0.29	0.52	0.27	0.76
Gasoline range	0.25	0.25 U	1.4 NJ	0.34 NJ	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L				
* RL - Reporting Limit					
	•				

Low Level Volatile Organic Compounds					
Site Location					MW4
Sample Depth			1	1	
Sample Number	TB-G	TB-F	TB-E	G-BI	8-MW4-GWIDL
Laboratory Sample ID	9605494-05	9605494-10	9605458-10	9603438-03	9603438-03DL
Matrix	water	Wafer	Water 6/14/06	Water 4/14/96	Water 5/14/96
Date Sampled	06/61/6	06/61/6	06/41/6	OCH III	20/20/3
Date Analyzed CROI.	9/16/96	5/16/96	06/61/6	06/61/6	06/01/6
Chloromethane	1 U	10	10	1 U	2 U
Vinyl chloride	10	10	10	10	2 U
Bromomethane	10	1 U	1 U	1 U	2 U
Chloroethane	10	1 U	10	10	2 U
1.1-Dichloroethene	10	1 U	10	1 U	0.54 J
Acetone	10	10	1 U	1 U	~
Carbon disulfide	10	10	10	1 U	2 U
Methylene chloride 2	0.21 BJ	0.2 BJ	0.24 BJ	0.16 BJ	4 U
trans-1.2-Dichloroethene	10	1 U	10	1 U	2 U
1.1-Dichloroethane	10	10	10	1 U	0.62 J
cis-1.2-Dichloroethene	10	1 U	10	1 U	18
2-Butanone	5.0	5 U	S U	5 U	<b>x</b>
Bromochloromethane	10	1 U	1 U	UI	2 U
Chloroform	10	1 U	1 U	nı	1.9 J
1 2-Dichloroethane	1 U	1 U	10	1 U	2 U
1 1 1-Trichloroethane	UI	1 U	1 U	10	0.84 J
Carbon tetrachloride	10	1 U	10	n I	2 U
Renzene	DI	1 U	1 U	1 U	2 U
Trichlorethere	ח	1 U	1 U	1 U	2 J
1 2-Dichloronronane	n i	1 0	10	1 U	2 U
Bromodichloromethane 1	10	1 U	10	Ω1	0.2 J
cis-1 3-Dichloronropene	10	1 U	1 U	1.0	2 U
4-Methyl-2-pentanone	\$ U	5 U	S U	2 U	10 U
Toluene	1 U	ות	1 U	10	2 U
trans-1,3-Dichloropropene	10	1.0	1 U	1 U	2 U
1,1,2-Trichloroethane	1 U	10	1 U	1 U	2 U
Tetrachloroethene	10	1 0	1 U	1 U	17 J
2-Hexanone 5	ns	5 U	2 0	n s	10 U
Dibromochloromethane 1	10	1 U	1 U	1 U	2 U
1.2-Dibromoethane	n ı	1 U	1 U	1 U	2 U
Chlorobenzene	n i	1 0	1 U	1 U	2 U
Ethylbenzene	1 U	1 U	1 U	1 0	2 U
Styrene	10	1 U	1 U	1 0	2 U
1.1.2.2-Tetrachloroethane	10	1 U	1 U	1 U	2 U
Bromoform	10	1 U	1 0	1 U	2 U
1 3-Dichlorohenzene	10	10	10	1 U	2 U
1.4-Dichlorobenzene	10	U I	10	1 0	2 U
1.2-Dichlorobenzene	10	1 U	1 U	1 U	2 U
	-				

Low Level Volatile Organic Compounds					
Site	∞	<b>6</b> 0	∞	96	œ
Location	MW4	MW4	MW3	MW3	MW3
Sample Depth					
Sample Number	8-MW4-GW1	8-MW4-GW1	8-MW3-GW1DL	8-MW3-GW1	8-MW3-GW1
Laboratory Sample ID	9605458-03	9605458-03	9605494-08DL	9605494-08	9605494-08
Matrix	water	water	water	water	water
Date Sampled	5/14/96	5/14/96	5/15/96	5/15/96	06/51/5
Date Analyzed	9/12/96	Composite result	5/11/96	5/16/96	Composite result
CKOL	100	11.1	11 05	n I	1 U
View of charity		D 1	20 CC	0.22 J	0.22 J
Vally chorace		01	50 U	1 U	10
Dromomentane		0.1	50 U	1 U	1 U
1 Dichlomethere	F 290	0.67 J	50 U	3.8	3.8
1,1-Distriction	, e	2	×	2	~
Carbon distriffide	1 0	1 U	20 U	10	1 U
Methylene chloride	2 U	2 U	100 U	2 U	2 U
trans-1 2-Dichloroethene	10	1 U	50 U	0.38 J	0.38 J
1 1-Dichloroethane	0.85 J	0.85 J	20 U	10	10
cis-1.2-Dichloroethene	26 J	18	520	380 J	520
2-Butanone	8	24	æ	<b>x</b>	2
Bromochloromethane	10	1 U	20 U	10	10
Chloroform	2.7	2.7	20 U	4.3	4.3
1 2-Dichlorethane	10	1 U	50 U	1 U	1 U
1 1 1-Trichloroethane	U 200	0.97 J	5.5 J	6.1	6.1
Carbon tetrachloride	1 U	UI	20 U	0.77 J	0.77 J
Benzene 1	10	10	20 U	0.12 J	0.12 J
Trichloroethene	2.5	2.5	55	48 J	55
1,2-Dichloropropane	10	10	20 U	1 U	1 0
Bromodichloromethane 1	0.32 J	0.32 J	20 U	0.28 J	0.28 J
cis-1,3-Dichloropropene	10	10	20 U	ם ו	01
4-Methyl-2-pentanone 5	S U	2 U	250 U	5 U	n s
Toluene	10	10	20 U	Þ.	10
trans-1,3-Dichloropropene	10	10	20 U	D.	01
1,1,2-Trichloroethane	10	10	30 U	0.1	01
Tetrachloroethene 1	18	18	20 U	01	10
2-Hexanone 5	n s	n s	250 U	2.0	O S
Dibromochloromethane 1	10	10	20 U	1 U	10
1,2-Dibromoethane	10	1 U	20 U	10	0.1
Chlorobenzene	10	1 U	50 U	1 U	1 U
Ethylbenzene	10	10	20 U	10	1 U
Styrene	. 1U	1 U	50 U	1 U	1 U
1, 1, 2, 2-Tetrachloroethane	10	1 U	20 U	1 U	1 U
Bromoform 1	10	1 U	20 U	1 U	10
1.3-Dichlorobenzene	10	1 U	20 U	10	10
1,4-Dichlorobenzene	1 U	ΩI	20 U	1 0	0.1
1,2-Dichlorobenzene	10	10	50 U	1.0	0.1

8 8 8 8 8 WW3 WW3	8-MW3-GW1DL 8-MW3-GW1 8-MW3-GW1 9605494-08 9605494-08 9605494-08 water water 5/15/96 5/15/96 5/16/96 Composite result	R R SOU 1U 1U 1U	50 1 Composite result 25.0 mL 25.0 mL 25.0 mL
8 MW4	8-MW4-GW1 9605458-03 water 5/14/96 Composite result	R 1 U	Composite result 25.0 mL
8 MW4	8-MW4-GW1 9605458-03 water 5/14/96 \$/15/96	R 1 U 0	1 25.0 mL
Low Level Volatile Organic Compounds Site Location Sample Depth	Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed CRQL	1,2-Dibromo-3-chloropropane 1  Xylene (total) 1  Total TIC concentration Units (notes) Soil (note) Water	Dilution Factor Sample Weight/Volume

Low Level Volatile Organic Compounds					
Site	œ	∞	∞	<b>6</b> 0	7
Location	MW2	MW1	MWI	MWI	MW3
Sample Depth	MAN CAMP O	Man China	0 1.007	THE THING	A CHICA CHICA F
Sample Number	I M D-Z M IVI-9	8-MWI-GWIDE	I M D-I M IV-8	S-IM MI-S	WS-CWIN-
Laboratory Sample ID	9605458-01	9605494-06DL	9605494-06	9605494-06	9605494-03
Mamx	Maici	Walci	water	Walci	Walci
Date Sampled	5/14/96	5/15/96	\$/15/96	5/15/96	\$/15/96
Date Analyzed	8/15/96	5/17/96	9/16/96	Composite result	9/16/96
		11 03	11.6	11.	11.1
Chloromethane	0.1	0.00	0.1	01	0 ;
Vinyl chloride	0.1	20 C	10	10	0.1
Bromomethane	01	20 U	10	10	1 U
Chloroethane	10	20 U	1 U	10	1 U
1,1-Dichloroethene	0.54 J	20 U	2.1	2.1	0.07 J
Acetone 1	~	2	æ	æ	~
Carbon disulfide	10	20 U	n I	10	1 U
Methylene chloride 2	20	100 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	UI	N 05	0.63 J	0.63 J	1 U
1.1-Dichloroethane	0.3 J	14 J	16	16	1 U
cis-1.2-Dichloroethene	4.9	830	230 J	830	0.29 J
2-Butanone	2	×	×	2	R
Bromochloromethane	10	50 U	1 U	1 U	10
Chloroform	1.3	50 U	0.9 J	I 6'0	4.6
1,2-Dichloroethane	10	20 U	0.86 J	0.86 J	10
1,1,1-Trichloroethane	0.74 J	20 U	4.6	4.6	0.19 J
Carbon tetrachloride	UI	20 U	0.49 J	0.49 J	1 0
Benzene 1	10	20 U	1 U	1 U	1 U
Trichloroethene	8	52	55 J	52	1.1
1,2-Dichloropropane	10	20 U	ı u	1 U	1 0
Bromodichloromethane 1	10	20 U	n n	10	0.13 J
cis-1,3-Dichloropropene	10	D 08	1 U	1 0	1 U
4-Methyl-2-pentanone	D \$	250 U	5 U	S U	SU
Toluene	10	20 U	1 U	10	1 U
trans-1,3-Dichloropropene	10	20 U	1 U	1 U	1 0
1,1,2-Trichloroethane	1 U	20 U	0.42 J	0.42 J	10
Tetrachloroethene 1	11	20 U	1.8	1.8	1.9
2-Hexanone 5	20	250 U	\$ U	a s	D \$
Dibromochloromethane 1	10	50 U	1 U	1 0	1 U
1,2-Dibromoethane	10	20 U	1 0	1 U	ı u
Chlorobenzene	10	20 U	1 U	10	1 U
Ethylbenzene 1	10	20 U	1 U	1 U	1 U
Styrene	10	20 U	1 0	1 U	1 0
1,1,2,2-Tetrachloroethane		S0 U	10	10	1 U
Bromoform	10	50 U	1 U	1 U	1 U
1,3-Dichlorobenzene	10	20 U	1 U	1 U	10
1,4-Dichlorobenzene	10	50 U	1 0	1 U	1 U
1,2-Dichlorobenzene	10	20 U	10	10	1 U

Low Level Volatile Organic Compounds				
Site	7	9	9	
Location	MW3	MW3	MW1	
Sample Depth Sample Number	7-MW3-GW2	6-MW3-GW1	6-WW1-GW2	
Laboratory Sample ID	9605494-01	9605458-08	9605458-06	
Matrix	water	water	water	
Date Sampled	5/15/96	5/14/96	5/14/96	
	9/16/96	8/12/96	5/15/96	
CRQL	11.1		1111	
View Officiale			n I	
Bromomethane		DI.	n i	,
Chloroethane	ם מ	DI	0.1	
1.1-Dichloroethene	1 0	10	1 U	
Acetone	24	4.4 J	22	
Carbon disulfide	n i	1 U	1 U	
Methylene chloride 2	2 U	2 U	2 U	
trans-1,2-Dichloroethene	זנ	1 0	1 U	
1,1-Dichloroethane	10	0.43 J	0.32 J	
cis-1,2-Dichloroethene	0.3 J	1.3	9	
2-Butanone 5	<b>x</b>	2.9 J	ď	
Bromochloromethane 1	10	10	1 U	
Chloroform	4.6	10	1 U	
1,2-Dichloroethane	10	10	1 U	
1,1,1-Trichloroethane	0.2 J	1 U	10	
Carbon tetrachloride	0.1 J	10	1 U	
Benzene 1	10	0.11 J	10	
Trichloroethene	1.1	1.1	10	
1,2-Dichloropropane	10	10	1 U	
Bromodichloromethane 1	0.12 J	1 U	1 U	
cis-1,3-Dichloropropene	1 0	10	ות	
4-Methyl-2-pentanone	0 \$	3 J	s u	
Toluene 1	10	1 U	1 U	
trans-1,3-Dichloropropene 1	10	1 0	זמ	
1,1,2-Trichloroethane	0 I	1 n	1 U	
Tetrachloroethene	1.9	1 U	10	
2-Hexanone 5	20	5 U	5 U	
Dibromochloromethane 1	10	1 U	10	
1,2-Dibromoethane	1 0	1 0	10	
Chlorobenzene	ומ	1 0	1 U	
Ethylbenzene	10	1 U	0.14 J	
Styrene	1 0	1 U	10	
1,1,2,2-Tetrachloroethane	1 U	1 U	1.0	
Bromoform	10	1 U	1 U	
1,3-Dichlorobenzene	10	1 U	1 U	
1,4-Dichlorobenzene	10	1 U	10	
1,2-Dichlorobenzene	10	1 U	1 U	

6 MW1	6-MW1-GW2 9605458-06 water 5/14/96	5/15/96	R 1	)	1
6 MW3	6-MW3-GW1 9605458-08 water 5/14/96	5/15/96	R	2.3	1
7 MW3	7-MW3-GW2 9605494-01 water \$/15/96	2/16/96	R 1 U	0	1
Site Location Sample Depth	Sample Number Laboratory Sample ID Matrix Date Sampled	Date Analyzed CRQL	1,2-Dibromo-3-chloropropane 1 Xylene (total) 1	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water Dilution Factor

Semivolatile Organic Compounds					
Site	œ	∞	80	000	7
Location	MW4	MW3	MW2	MW1	MW3
Sample Depth					
Sample Number	8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MWI-GWI	7-MW3-GW2A
Laboratory Sample ID	9605458-03	9605494-08	9605458-01	9605494-06	9605494-03
Matrix	water	water	water	water	water
Date Sampled	5/14/96	5/15/96	5/14/96	5/15/96	5/15/96
Date Analyzed	5/23/96	5/24/96	5/24/96	5/24/96	\$/24/96
CRQL	11 01	11 01	10 11	10 11	11 01
	200	1101	201	1101	11 01
	000				
	10 0	0.01	0.01	0.01	0.01
	10 U	10 U	10 U	10 U	D 01
1,4-Dichlorobenzene 10	10 U				
1,2-Dichlorobenzene	10 OI	10 U	10 U	10 U	10 U
2,2'- oxybis(1-Chloropropane) 10	10 U				
2-Methylphenol	10 U				
Hexachlorocthane 10	10 U	10 U	10 U	10 U	10 OI
N-Nitroso-di-n-propylamine 10	D 01	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 OI
Nitrobenzene 10	10 U				
	10 U				
2-Nitrophenol	10 U				
2,4-Dimethylphenol	10 D	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U				
	U 01	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U				
Naphthalene 10	U 01	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U				
Hexachlorobutadiene 10	10 U				
4-Chloro-3-methylphenol	U 01	10 U	10 U	10 OI	10 U
2-Methylnaphthalene	10 U	10 U	10 U	U 01	10 U
Hexachlorocyclopentadiene 10	U 01	10 U	10 U	10 U	10 U
	10 U	10 U	10 U	10 OI	10 U
2,4,5-Trichlorophenol	25 U				
2-Chloronaphthalene	10 U	10 U	10 U	10 OI	10 U
2-Nitroaniline	25 U				
Acenaphthylene 10	10 U				
Dimethylphthalate 10	D 01	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U				
Acenaphthene 10	10 U				
3-Nitroaniline 25	25 U				
2,4-Dinitrophenol	25 U				
Dibenzofuran 10	10 U				
2,4-Dinitrotoluene	10 U				
4-Nitrophenol 25	25 U				
Fluorene 10	10 U				

Semivolatile Organic Compounds						
Site		∞	∞	66	90	7
Location Sample Depth		MW4	MW3	MW2	MW1	MW3
Sample Number		8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MW1-GW1	7-MW3-GW2A
Laboratory Sample ID		9605458-03	9605494-08	9605458-01	9605494-06	9605494-03
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/15/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/23/96	5/24/96	5/24/96	5/24/96	5/24/96
	CROL					
4-Chlorophenyl-phenylether	10	10 U				
Diethylphthalate	10	10 U	1.5	10 U	10 U	10 U
4-Nitroaniline	25	25 U				
4,6-Dinitro-2-methylphenol	25	25 U				
n-Nitrosodiphenylamine	10	10 U				
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	D 01
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	D 01
Pentachlorophenol	25	25 U				
Phenanthrene	10	10 U	10 OI	10 U	10 U	D 01
Anthracene	10	10 U	10 U	10 U	10 U	10 OI
Carbazole	10	10 U	10 U	10 U	10 U	D 01
Di-n-butylphthalate	10	10 U	10 U	10 U	10 U	U 01
Fluoranthene	10	10 U				
Pyrene	10	10 U				
Butylbenzylphthalate	10	10 U				
3,3'-Dichlorobenzidine	10	10 UJ	10 UJ	10 UJ	10 UJ	10 OI
Benzo[a]anthracene	10	10 U				
Chrysene	10	10 U				
bis(2-Ethylhexyl)phthalate	10	10 U				
Di-n-octylphthalate	10	10 U				
Benzo[b]fluoranthene	10	10 U				
Benzo[k]fluoranthene	10	10 U				
Benzo[a]pyrene	10	10 U				
Indeno[1,2,3-cd]pyrene	10	10 U				
Dibenz[a,h]anthracene	10	10 U				
Benzolg,h,i]perylene	10	10 U				
Total TIC concentration		32	22	18	35	32
Units (ug/kg) Soil, (ug/L) Water	ng/L	•	,			
Complete to the state of the st		1		1	1	1
Sample Weight Volume	_	1000 mL				

Site Location Sample Depth Sample Number Laboratory Sample ID	MW3		MW3	6 MW1	
Location Sample Depth Sample Number Laboratory Sample ID	MW3		MW3	MWI	
Sample Depth Sample Number Laboratory Sample ID					
Sample Number Laboratory Sample ID	THE CAME	THE CHIEF		Circuit Cuit	
Laboratory Sample ID	ZWD-EWIN-/	W IVI-0	TAN I	O-IVIWI-OWZ	
	9605494-01		9605458-08	9605458-06	
Matrix	Walct		water	Water	
Date Sampled	5/15/96		5/14/96	5/14/96	
Date Analyzed	9/24/96		5/24/96	5/24/96	
CRQL	L				
bis(2-Chloroethyl)ether 10		Ω	10 U	10 U	
Phenol 10	10 01	n	10 U	10 U	
2-Chlorophenol	10 U	U	10 U	10 U	
1,3-Dichlorobenzene	10 U	n	10 O	10 O	
1,4-Dichlorobenzene	10 U	n	10 U	10 U	
1,2-Dichlorobenzene	01	10 C	10 U	10 U	
2.2'- oxybis(1-Chloropropane) 10	10	10 U	10 U	10 U	
2-Methylphenol	10	10 U	10 U	10 U	
Hexachloroethane 10	10	10 U	10 U	10 U	
N-Nitroso-di-n-propylamine 10	10	10 U	10 U	10 U	
4-Methylphenol	10	10 U	10 U	10 U	
Nitrobenzene	10	10 U	10 U	10 U	
Isophorone	10	10 D	10 U	10 U	
2-Nitrophenol	10	10 U	10 U	. D 01	
honol	9	11 01	10 11	11 01	
methane	01	10 11	101	11 01	
	01	101	1011	11 01	
	01		100		
robenzene		<b>:</b>	0 01	·	
		10 U	10 O	f	
	10	10 U	10 U	10 U	
Hexachlorobutadiene 10	10	10 U	10 U	10 U	
nol		10 U	10 U	10 U	
2-Methylnaphthalene 10		10 U	10 U	1 J	
Hexachlorocyclopentadiene 10	10	10 U	10 U	10 U	
2,4,6-Trichlorophenol	01	10 U	10 U	10 U	
2,4,5-Trichlorophenol		25 U	25 U	25 U	
2-Chloronaphthalene		10 U	10 U	10 U	
2-Nitroaniline		25 U	25 U	25 U	
Acenaphthylene 10		10 U	10 U	10 U	
2		10 U	10 U	10 U	
		10 U	10 U	10 U	
		11 01	10 11	-	
		25 11	35 11	1130	
		o ;	0 57	25.5	
nol		0 62	0 67	0 67	
		10 U	10 D	10 U	
2,4-Dinitrotoluene		10 U	10 U	10 U	
4-Nitrophenol 25		25 U	25 U	25 U	
Fluorene 10		10 U	10 U	1.5	

Semivolatile Organic Compounds

									n		n			n	n	n	n	D	D	n	n	b		U	n	n	n	Þ	n	D	D	D	D	D				
9	MW3 MW1		6-MW3-GW1 6-MW1-GW2	9605458-08 9605458-06	water	•			10 U	1.1	25 U 25 U			10 U 10 U	10 U 10 U	25 U 25 U		10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 UJ	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	10 U 10 U	14			
7	MW3		7-MW3-GW2	9605494-01	water	5/15/96	5/24/96		10 U	1.1	25 U	25 U	10 U	10 01	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	. 26		1	
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed	CRQL	4-Chlorophenyl-phenylether	Diethylphthalate 10	4-Nitroaniline 25	4,6-Dinitro-2-methylphenol	n-Nitrosodiphenylamine 10	4-Bromophenyl-phenylether 10	Hexachlorobenzene 10	Pentachlorophenol 25	Phenanthrene 10	Anthracene 10	Carbazole 10	Di-n-butylphthalate 10	Fluoranthene 10	Pyrene 10	Butylbenzylphthalate 10	3,3'-Dichlorobenzidine	Benzo[a]anthracene 10		thalate	Di-n-octylphthalate 10		thene		Indeno[1,2,3-cd]pyrene 10		Benzo[g,h,i]perylene	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water ug/L	Dilution Factor	

Inorganics	•				
Site		∞	∞	∞	∞
Location		MW4	MW4	MW3	MW3
Sample Depth					
Sample Number		8-MW4-GW1 (Diss.)	8-MW4-GW1	8-MW3-GW1 (Diss.)	8-MW3-GW1
Laboratory Sample ID		9605458-04	9605458-03	9605494-09	9605494-08
Matrix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CRDL				
Antimony	9*	2 U	3.7 J	2 U	2.3 J
Arsenic	10	1 U	1 U	1 U	U I
Barium	200	102 J	212	187 J	207
Beryllium	* 4	0.3 U	0.5 U	0.3 U	0.4 U
Cadmium	S	2 U	2 U	2.8 U	2.1 U
Chromium	01	Ω9	17.6 U	12.7 U	15.4 U
Copper	25	4 U	9.7 J	4.6 J	11.9 J
Lead	3	10	2.5 J	1 U	2.4 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	SU	O 6.9	5 U	6.2 U
Selenium	'n	1 U	1 U	1 U	1 UJ
Silver	01	3 U	3 U	3 0	3 U
Thallium	*2	2 U	2 U	2 U	2 U
Zinc	20	13.7 J	69.2	458	250
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL					

Inorganics					
Site		8	∞	•	oc
Location		MW2	MW2	MW1	MWI
Sample Depun Sample Number		8-MW2-GW1 (Dies.)	1/11/2 C/IVIV-9	o Mari Cari Cari	
Laboratory Sample 1D		0508489 03	1 MO-7 M MI-0	6-MW 1-GW I (DISS.)	8-MWI-GWI
Matrix		20-924-20-0	9605458-01	9605494-07	9605494-06
Manix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96
Date Analyzed	2000	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CKDL				
Antimony	9 *	2 U	2 U	2 U	2 U
Arsenic	10	1 UJ	1 UJ	n I	
Barium	200	50.2 J	74.6 J	37.6 J	1 L 296
Beryllium	* 4	0.3 U	0.5 U	0.3 U	D 8:0
Cadmium	5	2 U	2.6 U	3.5 U	2 U
Chromium	10	9.5 U	12.6 U	7.1 U	0 % 0 %
Copper	25	4 U	6.3 J	4 U	0 4 U
Lead	3	10	1 U	1 U	6.3
Mercury	0.2	0.46	0.2 U	0.2 U	0.2 U
Nickel	40	S U	S U	\$ U	D S
Selenium	S	1.2 U	1.2 U	1 U	1 5
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 U	2 U
Zinc	20	0.7 U	14.3 J	7.4 U	31.5
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL					

Inorganics	•				
Site		7	7	7	7
Location		MW3	MW3	MW3	MW3
Sample Depth					
Sample Number		7-MW3-GW2A (Diss.)	7-MW3-GW2A	7-MW3-GW2 (Diss.)	7-MW3-GW2
Laboratory Sample ID		9605494-04	9605494-03	9605494-02	9605494-01
Matrix		water	water	water	water
Date Sampled		5/15/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CRDL				
Antimony	9*	2 U	2 U	2 U	2 U
Arsenic	10	1 U	1 U	1 U	Ω1 .
Barium	200	89.4 J	138 J	91.7 J	127 J
Beryllium	*	0.3 U	0.5 U	0.3 U	0.4 U
Cadmium	\$	2 U	2.6 U	2 U	3.5 U
Chromium	10	8.2 U	15.3 U	7.1 U	14 U
Copper	25	4 U	4.6 J	4 U	4.8 J
Lead	3	10	1.9 J	1 U	1.3 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	S U	\$ O.	\$ U
Selenium	2	1 U	1 UJ	1 U	1 U
Silver	10	3.0	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 U	2 UJ	2 U
Zinc	20	22.6	52.8	I 8.61	44.6
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL					

Inorganics	•				
Site		9	9	9	9
Location Sample Depth		MW3	MW3	MW1	MWI
Sample Number		6-MW3-GW1 (Diss.)	6-MW3-GW1	6-MWI-GW2 (Diss.)	6-WW1-GW2
Laboratory Sample ID		9605458-09	9605458-08	9605458-07	9605458-06
Matrix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/14/96	5/14/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CRDL				
Antimony	9*	2 U	2 U	2 U	2 U
Arsenic	10	1 U	1 U	1 U	n I
Barium	200	270	350	131 J	233
Beryllium	*	0.3 U	0.7 U	0.3 U	U 8.0
Cadmium	s	2.7 U	2 U	2 U	2 U
Chromium	10	Ω9	17.2 U	9.2 U	21.2 U
Copper	25	4.9 J	18.7 J	4 U	4.3 J
Lead	£	1 U	3.1	1 U	8.5
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	8.1 U	33.7 J	\$ U	5.6 U
Selenium	2	1 U	m 1	1 UI	1 03
Silver	10	3 U	3 U	3 U	3 U
Thallium	*2	2 U	2 U	2 UJ	2 U
Zinc	20	77.4	291	8.5 U	33.3
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL					

JP4, Gas, Diesel, Oil					
Site		80	•	∞	•
Location		MW4	MW3	MW2	MW1
Sample Depth					
Sample Number		8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MW1-GW1
Laboratory Sample ID		9605458-03	9605494-08	9605458-01	9605494-06
Matrix		water	water	water	water
Date Sampled		5/14/96	5/15/96	5/14/96	5/15/96
Date Analyzed		5/17/96 - 6/8/96	5/17-31/96	5/17-23/96	5/17-31/96
	* RL				
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U
Diesel range, as diesel	0.25	0.29 NJ	0.25 U	0.25 U	0.28 NJ
Oil range, as oil	-	10	1 U	1 U	1 U
JP.4	0.25	0.25 U	0.25 U	0.25 U	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L				
* RL - Reporting Limit					

	9	MWI	5WD-1WW-A	9605458-06	Water	5/14/96	5/17-31/96		0.25 U	IN 66.0	2.3	IN Z I	
	9	MW3	6-MW3-GW1	9605458-08	water	5/14/96	5/17-31/96		0.25 U	0.25 U	1 U	0.25 U	
	7	MW3	7-MW3-GW2	9605494-01	water	5/15/96	5/23-31/96		0.25 U	0.25 U	1 U	0.25 U	
	7	MW3	7-MW3-GW2A	9605494-03	water	5/15/96	5/17-31/96		0.25 U	0.25 U	1 U	0.27 NJ	
								* RL	0.25	0.25	1	0.25	mg/L
JP4, Gas, Diesel, Oil	Site	Location Samule Denth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Gasoline range	Diesel range, as diesel	Oil range, as oil	JP-4	Units (mg/kg) Soil, (mg/L) Water

Low Level Volatile Organic Compounds				
Site				1
Location			MW2	MW2
Sample Depth				
Sample Number	TB-H	TB-1	1-MW2-GW2A	1-MW2-GW2
Laboratory Sample ID	9605516-05	9605545-02	9605516-03	9605516-01
Matrix	water	water	water	water
Date Sampled	5/16/96	5/17/96	5/16/96	5/16/96
Date Analyzed	\$/17/96	2/28/96	5/17/96	5/11/96
Chloromethane	10	1 U	1 U	1 U
Vinyl chloride 1	UI	1 U	1 U	. 1 U
Bromomethane	1 0	1 U	1 U	1 U
Chloroethane	10	1 U	1 U	1 U
1.1-Dichloroethene	10	1 U	1 U	1 U
Acetone	10	1 U	Я	æ
Carbon disulfide	1 U	1 U	1 U	1 U
Methylene chloride 2	0.24 BJ	0.21 BJ	2 U	2 U
trans-1,2-Dichloroethene	10	1 0	1 U	1 U
1,1-Dichloroethane	10	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U
2-Butanone 5	2 0	SU	24	æ
Bromochloromethane 1	10	1 U	1 U	1 U
Chloroform	10	1 U	1 U	1 U
1,2-Dichloroethane	10	1 U	1 U	1 U
1,1,1-Trichloroethane	10	1 U	1 U	1 U
Carbon tetrachloride	10	1 U	1 U	1 U
Benzene 1	10	1 U	1 0	1 0
Trichloroethene	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 0	1 U	1 0
Bromodichloromethane 1	10	1 U	1 0	10
cis-1,3-Dichloropropene	10	1 U	1 U	1 U
4-Methyl-2-pentanone	s u	S U	2 U	5 U
Toluene 1	0.05 J	0.03 J	10	1 U
trans-1,3-Dichloropropene	1 0	1 U	1 U	1 0
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U
Tetrachloroethene 1	1 U	1 U	1 U	1 U
2-Hexanone \$	5 U	SU	SU	SU
Dibromochloromethane 1	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U
Ethylbenzene 1	1 U	1 U	1 U	1 U
Styrene	1 U	1 C	n ı	1 U
1,1,2,2-Tetrachloroethane	10	1 0	1 U	1 U

Site				-	
Location				, cww	CANA
Sample Depth					7 14 147
Sample Number		TB-H	TB-1	1-MW2-GW2A	1-MW2-GW2
Laboratory Sample ID		9605516-05	9605545-02	9605516-03	9605516-01
Matrix		water	water	Talen	10-01 CCCC
Date Sampled		5/16/96	9/21/5	96/91/\$	4/16/96
Date Analyzed		5/17/96	5/28/96	8/21/8	5/12/16
	CRQL				001110
Bromoform	1	1 U		111	1111
1,3-Dichlorobenzene	-	חו			
1,4-Dichlorobenzene					
1,2-Dichlorobenzene	-				
1,2-Dibromo-3-chloropropane				0 0	0.5
Xylene (total)		n I		¥ <b>1</b>	X -
Total TIC concentration	<u>.                                    </u>	0	)	0	
Units (ug/kg) Soil, (ug/L) Water	ng/L				
Dilution Factor		1			_
Sample Weight/Volume		25 0 ml	1:030	4 2	

Low Level Volatile Organic Compounds	
Site	1
Location	MW1
Sample Depth	
Sample Number	1-MW1-GW1
Laboratory Sample ID	9605545-01
Matrix	water
Date Sampled	9/16/96
Date Analyzed CROI.	5/28/96
Chloromethane	1 UJ
Vinyl chloride	1.0
Bromomethane 1	1 U
Chloroethane	1 UJ
1,1-Dichloroethene	1.0
Acetone 1	<b>ਲ</b>
Carbon disulfide	1.0
Methylene chloride 2	2 U
trans-1,2-Dichloroethene	1.0
1,1-Dichloroethane	1 U
cis-1,2-Dichloroethene	1.0
2-Butanone 5	R
Bromochloromethane 1	1.0
Chloroform	1.0
1,2-Dichloroethane	10
1,1,1-Trichloroethane	n n
Carbon tetrachloride 1	1.0
Benzene 1	1.0
Trichloroethene	1.0
1,2-Dichloropropane	1.0
Bromodichloromethane 1	1.0
cis-1,3-Dichloropropene	1.0
4-Methyl-2-pentanone	n s
Toluene	1.0
trans-1,3-Dichloropropene	1.0
1,1,2-Trichloroethane	1.0
Tetrachloroethene 1	1.0
2-Hexanone	\$ n
Dibromochloromethane 1	1.0
1,2-Dibromoethane	10
Chlorobenzene	nπ
Ethylbenzene 1	n n
Styrene	10
1,1,2,2-Tetrachloroethane	1.0

1-MW1-GW1 9605545-01 water 5/16/96 5/28/96 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
---

		MW2	CINTA	1	
	_		7 MIM	MWI	
Sample Depth					
Sample Number		1-MW2-GW2A	1-MW2-GW2	1-MW1-GW1	
Laboratory Sample ID		9605516-03	9605516-01	9605545-01	
		water	water	Water	
		5/16/96	5/16/96	5/16/96	
1000	_ -	\$/28/96	2/28/96	5/28/96	
	3	101	101	10.11	
ois(2-Cnioroemyi)emer	2 5			100	
	_				
	 0	0 01	0.01	0.01	
	10	10 U	10 U	0.01	
,4-Dichlorobenzene	10	10 U	10 U	10 U	
1,2-Dichlorobenzene	10	10 U	10 U	10 U	
propane)	- 01	10 U	10 U	10 U	
	- 01	10 U	10 U	10 U	
9		1011	11 01	10 U	
mino		11 01	11 01	11 01	
	2 2	1101	11 01	11.01	
4-Memyiphenor			11 01	1101	
-	0 5	0.01	001		
	10	10 0	10 0	0.01	
1	10	10 U	10 U	10 U	
2,4-Dimethylphenol	- 01	10 U	10 U	10 U	
methane	10	10 U	10 U	10 U	
	- 01	10 U	10 U	10 U	
che	- 01	10 U	10 U	10 U	
	2	11 01	10 01	10 U	
A Chlomodiae	2 2	1101	11 01	11 01	
;	_		11 01	1101	
•	 e	10 0	10 0	0.01	
nol	<u> </u>	10 01	10 0	0.01	
2-Methylnaphthalene	- 01	10 U	10 U	10 U	
Hexachlorocyclopentadiene 1	10	10 U	10 OI	10 U	
	10	10 U	10 U	10 U	
	25	25 U	25 U	25 U	
	10	10 01	10 U	10 U	
	35	25 11	11 25	11 50	
		1101	1101	10 11	
Dimethylphthalate 1	10	0.01	10.0	10 0	
2,6-Dinitrotoluene	10	10 O	10 U	10 U	
	10	10 U	10 U	10 U	
2	25	25 U	25 U	25 U	
A Wintershood		25.11	11 50	25 11	
		1100	11 61	100	
		0.01	0 01	001	
2,4-Dinitrotoluene	 01	D 01	10 O	10 O	
2	25	25 U	25 U	25 U	
	- 01	10 11	10 U	10 U	

Semivolatile Organic Compounds

-	T I W	IMINI	1-MW1-GW1	9605545-01	water	5/16/96	96/86/5		11 01	-	25.11	25.11	100	10 D	10 U	25 U	10 U	10 U	10 U	1 1	10 U	10 U	10 U	10 U	10 U	10 U	1.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	27			1000 mL
-	, CWM	7 to 7 to	1-MW2-GW2	9605516-01	water	\$/16/96	5/28/96		10 U	10 U	25 U	25 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0		1	1000 mL
pu	MW2		1-MW2-GW2A	9605516-03	water	5/16/96	5/28/96		10 U	10 U	25 U	25 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0		1	1000 mL
				_				CRQL	ylether 10	10	25	henol 25	ne 10	ylether 10	10	25	10	10	10	10	10	10	10	10	10							9		10	n	/L) Water ug/L		
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		4-Chlorophenyl-phenylether	Diethylphthalate	4-Nitroaniline	4,6-Dinitro-2-methylphenol	n-Nitrosodiphenylamine	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Carbazole	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	3,3'-Dichlorobenzidine	Benzo[a]anthracene	Chrysene	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	Dibenz[a,h]anthracene	Benzo[g,h,i]perylene	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Sample Weight/Volume

Inorganics					
Site		_	_	1	1
Location		MW2	MW2	MW2	MW2
Sample Depth					
Sample Number		1-MW2-GW2A (Diss.)	1-MW2-GW2A	1-MW2-GW2 (Diss.)	1-MW2-GW2
Laboratory Sample ID		9605516-04	9605516-03	9605516-02	9605516-01
Matrix		water	water	water	water
Date Sampled		96/91/5	5/16/96	5/16/96	5/16/96
Date Analyzed		5/30/96 - 6/11/96	5/30/96 - 6/17/96	5/30/96 - 6/17/96	5/30/96 - 6/17/96
	CRDL				
Antimony	9*	2 UJ	2 UJ	2 UJ	2 UJ
Arsenic	10	1 U	1 0	1 U	1 U
Barium	200	83.2 J	104 J	82.8 J	115 J
Beryllium	*	0.3 U	0.3 U	0.3 U	0.4 J
Cadmium	8	2 U	2 U	2 U	2 U
Chromium	10	Ω9	Ω9	Ω9	1 6
Copper	25	4 U	4 U	4 U	4 J
Lead	3	1 U	1 U	1 U	1 0
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	S U	SU	5 U
Selenium	2	f 6'9	7.5 J	5.4 UJ	13.5 J
Silver	10	3 U	3 U	3 U	3 0
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	18.8 U	27.9	18.4 U	31.1
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	ng/L				

	1	MW1		1-MW1-GW1	9605545-01	water	5/16/96	5/20/96 - 6/8/96		0.25 U	0.35 NJ	1 U	0.25 U		
	-	MW2		1-MW2-GW2	9605516-01	water	9/16/96	5/20/96 - 6/8/96		0.25 U	0.25 U	1 U	0.25 U		
	1	MW2		1-MW2-GW2A	9605516-03	water	96/91/5	5/20/96 - 6/8/96		0.25 U	0.25 U	1 U	0.25 U		
		•							* RL	0.25	0.25	-	0.25	mg/L	
JP4, Gas, Diesel, Oil	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Gasoline range	Diesel range, as diesel	Oil range, as oil	JP-4	Units (mg/kg) Soil, (mg/L) Water	* RL - Reporting Limit

Low Level Volatile Organic Compounds					
Site					
Location					
Sample Depth				ŧ į	
Sample Number	TB-F	TB-E	CI-BT.	TB-C	TB-B
Laboratory Sample ID	960/404-15	960/404-20	200/404/000	01-404/006	50-5/5/006
Matrix Date Sampled	Walet 7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed	7/11/96	96/11/1	2/11/196	96/11//	96/11/1
CRQL				•	11.0
Chloromethane	);		); ;		) <u>-</u>
Vinyl chloride	0.1	j ;		2:	
bromomethane 1	10	D i	0.1	01	) : 
Chloroethane	D 1	n I	01	1.0	0:
1,1-Dichloroethene	חו	10	1 0	01	01
Acetone 5	20	0.5	D vs	0.5	0.5
Carbon disulfide	10	n ı	1 U	1 0	10
Methylene chloride 2	0.26 BJ	0.15 BJ	2 U	2 U	2 U
trans-1,2-Dichloroethene	10	1 U	n 1	1 U	זכ
1,1-Dichloroethane	1.0	1 U	1 U	n n	10
cis-1,2-Dichloroethene	10	1 U	1 U	1 U	1 C
2-Butanone \$	SU	5 U	n s	S U	2 U
Bromochloromethane 1	0.1	1 U	1 0	1 U	1 U
Chloroform	10	1 U	1 U	1 U	10
1,2-Dichloroethane	1 U	1 0	1 U	1 U	1 U
1,1,1-Trichloroethane	1 0	1 U	1 U	1 U	1 U
Carbon tetrachloride	10	1 U	1 U	1 U	1 U
Benzene	10	1 U	10	n r	10
Trichloroethene	10	1 n	1 0	1 0	D.
1,2-Dichloropropane	1 0	1 U	n I	DI	10
Bromodichloromethane 1	D I	1 U	1 U	D I	D.
cis-1,3-Dichloropropene	0.1	1.0	D :	0.1	01
4-Methyl-2-pentanone	s U	o s	S 0	o s	0.5
Toluene	10	10	1 0	D.	01
trans-1,3-Dichloropropene	10	10	10	DI	01
1,1,2-Trichloroethane	1 C	10	1.0	D.	0.1
Tetrachloroethene 1		0.1	1.0	10	
2-Hexanone 5	n \$	o s	2.0	2.0	o s
Dibromochloromethane 1	10	1 U	1 U	10	1 U
1,2-Dibromoethane	10	1 U	1 U	1 U	1 U
Chlorobenzene	10	1 U	1 U	0.1	1 U
Ethylbenzene	10	110	1 0	1 U	10
Styrene	10	10	1 U	10	10
1,1,2,2-Tetrachloroethane	10	1 U	1 U	n 1	1 U
Bromoform	10	1 U	1 U	1 U	10
1,3-Dichlorobenzene	10	n I	1 U	0.1	10
1,4-Dichlorobenzene	10	10	10	10	0.1

Low Level Volatile Organic Compounds

/olume 25.0 mL 25.0 mL 25.0 mL 25.0 mL 25.0 mL	Site Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed 1,2-Dichlorobenzene 1,2-Dichnono-3-chloropropane Xylene (total) Total TIC concentration Units (ug/kg) Soil, (ug/L) Water	CRQL 1 1 ug/L	TB-F 9607404-15 water 7/10/96 7/17/96 1 U 1 U 1 U	TB-E 9607404-20 water 7/10/96 7/17/96 1 U 1 U 1 U 1 U	TB-D 9607404-05 water 7/10/96 7/17/96 1 U 1 U 1 U 1 U	TB-C 9607404-10 water 7/10/96 7/17/96 1 U 1 U 1 U	TB-B 9607375-03 water 7/9/96 7/17/96 1 U 1 U 1 U
	Sample Weight/Volume		1 25.0 mL	1 25.0 mL	1 25.0 mL	1 25.0 mL	1 25.0 mL

Low Level Volatile Organic Compounds					
Site		œ	90	90	œ
Location		MW3	MW3	MW3	MW2A
Sample Depth					
Sample Number	TB-A	8-MW3-GW2DL	8-MW3-GW2	8-MW3-GW2	8-MW2A-GW2
Laboratory Sample ID	9607375-08	9607404-13DL	9607404-13	9607404-13	9607404-18
Matrix	water	water	water	water	water
Date Sampled	96/6/L	7/10/96	7/10/96	2/10/6	1/10/96
Date Analyzed	1/11/96	2/18/96	7/11/96	Composite result	7/11/96
CRQL					
Chloromethane	1 U	20 U	1 U	10	0.16 J
Vinyl chloride	1 U	20 U	0.26 J	0.26 J	1 U
bromomethane	1 0	20 U	1 U	10	1 U
Chloroethane	1 0	20 U	1 U	1 U	1 U
1,1-Dichloroethene	10	2.2 J	3.1	3.1	0.41 J
Acetone 5	S U	<b>x</b>	2	<b>x</b>	ĸ
Carbon disulfide	1 U	20 U	10	1 U	10
Methylene chloride 2	0.27 BJ	40 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	1 0	20 U	0.31 J	0.31 J	1 U
1,1-Dichloroethane	n I	9.4 J	12	12	0.23 J
cis-1,2-Dichloroethene	1 U	420	360 J	420	2.3
2-Butanone 5	5 U	R	24	ĸ	æ
Bromochloromethane 1	1 U	20 U	1 0	10	1 U
Chloroform	10	3 J	3.4	3.4	0.79 J
1,2-Dichloroethane	10	20 U	10	10	1 U
1,1,1-Trichloroethane	U I	3.4 J	3.9	3.9	0.58 J
Carbon tetrachloride	1 U	20 U	0.33 J	0.33 J	1 U
Benzene	1 U	20 U	1 0	1 0	10
Trichloroethene	0.21 J	25	31 J	2.5	1
1,2-Dichloropropane	1 U	20 U	1 U	10	10
Bromodichloromethane 1	10	20 U	0.16 J	0.16 J	10
cis-1,3-Dichloropropene	10	20 U	1 U	10	10
4-Methyl-2-pentanone	SU	100 U	SU	3 U	5 U
Toluene	1 U	20 U	1.3	1.3	1.8
trans-1,3-Dichloropropene	10	20 U	10	10	10
1,1,2-Trichloroethane	1 0	20 U	10	1 U	10
Tetrachloroethene 1	1 U	20 U	1 U	1 U	e
2-Hexanone 5	5 U	<b>x</b>	ď	<b>x</b>	×
Dibromochloromethane 1	10	20 U	10	1 U	1 U
1,2-Dibromoethane	10	20 U	10	1 U	1 U
Chlorobenzene	1 U	20 U	1 U	10	1 U
Ethylbenzene 1	1 U	20 U	10	1 U	10
Styrene	10	20 U	10	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	20 U	1 U	1 U	1 U
Bromoform	1 U	20 U	n ı	1 U	1 U
1,3-Dichlorobenzene	1 U	20 U	1 U	10	1 U
1,4-Dichlorobenzene	1 U	2.2 J	0.79 J	0.79 J	0.77 J

Low Level Volatile Organic Compounds	S.					
Site			∞	90	•	œ
Location Seconds Desit			MW3	MW3	MW3	MWZA
Sample Number		TB-A	8-MW3-GW2DL	8-MW3-GW2	8-MW3-GW2	8. May A. Cutz
Laboratory Sample ID		9607375-08	9607404-13DL	9607404-13	9607404-13	9607404-18
Matrix		water	water	water	water	water
Date Sampled		96/6/L	7/10/96	7/10/96	96/01/2	96/01/2
Date Analyzed		7/11/96	7/18/96	7/17/96	Composite result	96/11/1
	CRQL					
1,2-Dichlorobenzene	-1	1 U	20 U	1 U	10	II
1,2-Dibromo-3-chloropropane	-	1 U	20 U	1.0		
Xylene (total)	_	1 U	20 U	n I		
Total TIC concentration		0	0	0	)	)
Units (ug/kg) Soil, (ug/L) Water	ng/L					
Dilution Factor		1	20	-	Composite result	-
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Site	_					
		••	oc	∞	000	7
Location		MW2	MW1	MW1	MW1	MWS
Sample Depth						
Sample Number	8-W	8-MW2-GW2	8-MW1-GW2	8-MW1-GW2	8-MW1-GW2	7-MWS-GW2
Laboratory Sample ID	96	9607404-16	9607404-11DL	9607404-11	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		96/01/2	7/10/96	7/10/96	7/10/96	96/6/L
Date Analyzed		2/18/96	7/23/96	96/11/1	Composite result	96/L1/L
Chloromethane	3	1.0	20 U	10	10	1 0
Vinyl chloride		10	O 05	1 U	1 U	10
bromomethane	_	1 U	50 U	10	1 U	10
Chloroethane		1.0	50 U	1 0	1 U	1 U
1,1-Dichloroethene		0.43 J	50 U	1.5	1.5	1 U
Acetone		~	<b>~</b>	<b>x</b>	<b>x</b>	<b>x</b>
Carbon disulfide		1 U	50 U	1 U	1 U	1 U
Methylene chloride	-	2 U	100 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	_	1 U	50 U	0.15 J	0.15 J	1 U
1,1-Dichloroethane		0.24 J	12 J	9.6	9.6	1 0
cis-1,2-Dichloroethene		2.6	630	340 J	630	10
2-Butanone		~	<b>x</b>	<b>x</b>	ď	<b>x</b>
Bromochloromethane		1 U	50 U	1 U	1 U	1 U
Chloroform		0.87 J	50 U	0.95 J	0.95 J	1 U
1,2-Dichloroethane		10	20 U	1 U	1 U	1 U
1,1,1-Trichloroethane	_	0.68 J	20 U	2.9	2.9	10
Carbon tetrachloride		1 U	20 U	0.33 J	0.33 J	1 U
Benzene		1 U	20 U	1 U	1 n	0.34 J
Trichloroethene		1.2	20 U	23	23	1 n
1,2-Dichloropropane	_	1 U	20 U	10	ΩI	10
Bromodichloromethane	_	1 U	20 U	1 U	1 0	1 U
cis-1,3-Dichloropropene	_	1 U	20 U	1 U	1 U	1 U
4-Methyl-2-pentanone		\$ U	250 U	s u	s U	s u
Toluene		2.2	50 U	1.6	1.6	0.29 J
trans-1,3-Dichloropropene	_	1 U	20 U	1 U	1 U	1 U
1,1,2-Trichloroethane		1 U	20 U	0.13 J	0.13 J	1 U
Tetrachloroethene		3.3	20 U	2.4	2.4	1 U
2-Hexanone	<b>S</b>	×	æ	~	R	<b>x</b>
Dibromochloromethane		1 U	20 U	1 U	1 U	1 U
1,2-Dibromoethane		1 U	20 U	1 U	1 U	1 0
Chlorobenzene	_	1 U	20 U	0.1 J	0.1 J	1 n
Ethylbenzene	_	1 U	20 U	1 U	1 U	0.3 J
Styrene		1 U	20 U	1 0	1 U	1 n
1,1,2,2-Tetrachloroethane		1 U	20 U	1 U	1 U	1 U
Bromoform		1 U	20 U	1 U	n i	1 U
1,3-Dichlorobenzene	_	1 U	20 U	1 U	10	1 U
1,4-Dichlorobenzene	_	0.85 J	20 U	0.98 J	0.98 J	0.41 J

Low Level Volatile Organic Compounds					0
Site	7	7	7	9	9
Location	MW2	MW2	MW2	MW3A	MW3
Sample Depth					
Sample Number	7-MW2-GW2DL	7-MW2-GW2	7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2
Laboratory Sample ID	9607375-06DL	9607375-06	9607375-06	9607404-03	9607404-01
Matrix	water	water	water	water	water
Date Sampled	96/6/L	96/6/L	96/6/L	7/10/96	96/01/L
Date Analyzed CRO!	2/18/96	7/11/96	Composite result	96/11/1	1/18/96
Chloromethane	2 U	1 U	1 U	1 U	l U
Vinyl chloride	2 U	1 U	UI	10	1 U
bromomethane	2 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	UI	1 U	1 U	1 U
1,1-Dichloroethene	2 U	1 U	1 U	1 U	1 U
Acetone 5	<b>X</b>	я	ผ	<b>x</b>	~
Carbon disulfide	2 U	1 U	1 0	1 U	10
Methylene chloride 2	4 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	2 U	10	1 U	1 U	1 U
1,1-Dichloroethane	2 U	1 U	1 0	0.3 J	0.28 J
cis-1,2-Dichloroethene	2 U	1 U	1 U	0.21 J	0.24 J
2-Butanone 5	R	<b>x</b>	ଅ	<b>x</b>	R
Bromochloromethane 1	2 U	1 U	1 U	1 U	1 0
Chloroform	2 U	1 U	1 0	1 U	1 U
1,2-Dichloroethane	2 U	1 0	10	1 U	1 U
1,1,1-Trichloroethane	2 U	1 U	1 U	10	1 U
Carbon tetrachloride	2 U	1 U	1 U	10	1 U
Benzene 1	3.4	4.1	4.1	1 0	0.1
Trichloroethene	2 U	1 n	10	0.28 J	0.34 J
1,2-Dichloropropane	2 U	10	1 U	D.I.	1 n
Bromodichloromethane 1	2 U	10	1 0	D.I.	0.1
cis-1,3-Dichloropropene	2 U	10	1 0	10	ם ו
4-Methyl-2-pentanone 5	10 U	2.0	2.0	n s	0.8
Toluene	2 U	0.11 J	0.11 J	1.2	0.92 J
trans-1,3-Dichloropropene	2 U	10	1 0	D.I.	0.1
1,1,2-Trichloroethane	2 U	10	0 1	10	O I
Tetrachloroethene 1	2 U	n ı	0.1	10	10
2-Hexanone 5	æ	R		R	æ
Dibromochloromethane 1	2 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	2 U	1 U	1 U	10	1 U
Chlorobenzene	2 U	1 U	1 0	1 U	1 U
Ethylbenzene 1	61	25	25	1 U	10
Styrene	2 U	0.19 J	0.19 J	1 U	10
1, 1, 2, 2-Tetrachloroethane	2 U	1 U	1 U	1 0	1 n
Bromoform 1	2 U	U I	1 U	1 U	10
1,3-Dichlorobenzene	2 U	n 1	10	1 0	10
1,4-Dichlorobenzene	2 U	0.1 J	0.1 J	1.1	

7 6 MW2 MW3A	7-MW2-GW2 7-MW2-GW2 6-MW3A-GW2 6-MW3A-GW2 9607375-06 9607375-06 9607375-06 9607375-06 9607404-03 9607404-03 9607404-01 water water water 1/9/96 7/10/96 7/11/96 7/11/96 7/11/96 7/11/96	1U 1U 1U 1U 1U 1U 1U 6S J 49 0	1 Composite result 1
7 MW2	7-MW2-GW2DL 9607375-06DL water 7/9/96	2 U 2 U 49 88	2
Low Level Volatile Organic Compounds Site Location Sample Depth	Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed CROL		Units (ug/kg) Soil, (ug/L) Water ug/L Dilution Factor Samnle Weight/Volume

1 MW2	1-MW2-GW3 9607375-04 water 7/9/96	100	1 25.0 mL
6 MW1	6-MW1-GW3 9607404-06 water 7/10/96	1 U 1 U 10 90	1 25.0 mL
6 MW2	6-MW2-GW2 9607404-08 water 7/10/96	1 U 1 U 1 U	1 25.0 mL
Low Level Volatile Organic Compounds Site Location Sample Depth	Sample Number Laboratory Sample ID Matrix Date Sampled Date Analyzed CRQL		Onus (ug/kg) Sou, (ug/L) Water Dilution Factor Sample Weight/Volume

Semivolatile Organic Compounds						
Site		œ	∞	80	00	7
Location		MW3	MW2A	MW2	MWI	MWS
Sample Depth						
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	7-MWS-GW2
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	2/10/96	96/6/1
Date Analyzed		7/23/96	7/23/96	-7/23/96	7/23/96	7/22/96
	CROL	101	1101	11 01	1011	11 01
nloroethyl)ether	2 2			20	11 OI	1101
	01	0 01	200			
	- 01	10 0	0.01	0.01	0.01	
1,3-Dichlorobenzene	10	10 U	10 0	10 D	0.01	0.01
1,4-Dichlorobenzene	10	10 U	10 U	0 01	0 01	0.01
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 O	0.01
2,2'- oxybis(1-chloropropane)	10	10 U				
2-Methylphenol	10	10 U	10 U	10 U	10 U	1.5
Hexachloroethane	10	10 U				
N-Nitroso-di-n-propylamine	10	10 U				
4-Methylphenol	10	10 U				
Nitrobenzene	10	10 U				
Isophorone	10	10 U	10 U	10 U	10 U	10 D
2-Nitrophenol	10	10 U				
2.4-Dimethylphenol	01	10 U	10 U	10 U	10 U	10 D
bis(2-Chloroethoxy)methane	10	10 U				
2,4-Dichlorophenol	10	10 U				
1,2,4-Trichlorobenzene	10	10 U				
Naphthalene	10	10 U				
4-Chloroaniline	10	10 U				
Hexachlorobutadiene	10	10 U				
4-Chloro-3-methylphenol	10	10 U				
2-Methylnaphthalene	10	10 U				
Hexachlorocyclopentadiene	10	10 U				
2,4,6-Trichlorophenol	10	10 U				
2,4,5-Trichlorophenol	25	25 U				
2-Chloronaphthalene	10	10 U	10 U	10 U	10 OI	10 U
2-Nitroaniline	25	25 U				
Acenaphthylene	10	10 U				
Dimethylphthalate	10	10 U	10 U	10 U	10 U	10 O
2.6-Dinitrotoluene	10	10 U				
Acenaphthene	10	10 U				
3-Nitroaniline	25	25 U				
2,4-Dinitrophenol	25	25 U				
Dibenzofuran	10	10 U				
2,4-Dinitrotoluene	10	10 U				
4-Nitrophenol	25	25 U				

Semivolatile Organic Compounds						
Site	_	•	00	00	œ	۲
Location Sample Depth		MW3	MW2A	MW2	MW1	MWS
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	2/10/96	96/6/L
Date Analyzed	— IOao	7/23/96	7/23/96	7/23/96	7/23/96	7/22/96
Fluorene	10	10 17	10 11	11 01	11 01	14.00
4-Chlorophenyl-phenylether	10	1001	11 01	1 01		00
Diethylphthalate	10	10 O	D 01	101	11 01	0.01
4-Nitroaniline	25	25 U	25 U	25 U	25 U	25 11
4,6-Dinitro-2-methylphenol	25	· 25 U	25 U	25 U	25 U	25 5
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U	D 01
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 OI
Hexachlorobenzene	10	10 U				
Pentachlorophenol	25	25 U				
Phenanthrene	10	10 U	10 U	10 D	10 U	10 U
Anthracene	10	10 U				
Carbazole	10	10 U				
Di-n-butylphthalate	10	10 U				
Fluoranthene	10	10 U				
Pyrene	10	10 U				
Butylbenzylphthalate	10	10 U	10 OI	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U				
Benzo[a]anthracene	10	10 U				
Chrysene	10	10 U				
bis(2-Ethylhexyl)phthalate	10	10 U				
Di-n-octylphthalate	10	10 U				
Benzo[b]fluoranthene	01	10 U				
Benzo[k]fluoranthene	10	10 U				
Benzo[a]pyrene	10	10 U				
Indeno[1,2,3-cd]pyrene	01	10 U				
Dibenz[a,h]anthracene	10	10 U				
Benzolg, h, i]perylene	10	10 U				
Total TIC concentration		2	08	82	45	193
Units (mg/kg) Soil, (ug/L) Water	1/gu			,		
Dilution Factor		1	1	1	1	,
Sample Weight/Volume	_	1000 mL				

Semivolatile Organic Compounds					
Site	7	9	9	9	9
Location	MW2	MW3A	MW3	MW2	MW1
Sample Depth	4110 4110 A		STREET STREET	CIND CINA	2110 11110
Sample Number	/-WW2-GW2	6-MW3A-GW2	0-MW3-GW2	7 M D-7 M IVI-9	CWD-IWIN-0
Laboratory Sample ID	9607375-06	9607404-03	9607404-01	9607404-08	9607404-06
Matrix	water	water	water	water	water
Date Sampled	96/6/L	96/01/L	7/10/96	7/10/96	7/10/96
Date Analyzed	7/22/96	7/22/96	7/22/96	7/23/96	7/22/96
CROL	Or .				
bis(2-Chloroethyl)ether 1	10 U	10 U	10 U	U 01	10 U
	10 U 10 U	10 U	10 U	10 U	10 U
contenol	10 U	10 U	10 U	10 U	10 U
zene	10 U	U 01	10 U	10 U	10 U
	10 U 10 U	10 U	10 U	10 U	10 U
	10 U 10 U	10 U	10 U	10 U	10 U
ropane)	10 U	10 U	10 U	10 U	10 U
	1 1 1 1 1	10 U	10 U	10 U	10 U
2	10 U	10 U	10 U	10 U	10 U
povlamine	10 10	10 U	10 U	10 U	10 U
	10 U	10 U	10 U	10 U	10 U
		10 U	10 U	10 U	10 U
		10 U	10 U	10 U	10 U
	10 U	10 U	10 U	10 U	10 U
henol		10 U	10 U	10 U	10 U
methane		D 01	10 U	10 U	10 U
		11 01	D 01	10 U	10 U
		11 01	11 01	11 01	11 01
robenzene		200	101	11 01	-
		0.01			11 01
		D 01	0.01	001	001
Hexachlorobutadiene 1		0.01	0.01	0.01	0.01
4-Chloro-3-methylphenol		10 U	10 U	10 01	0 01
2-Methylnaphthalene	10 I 10 U	10 U	10 U	10 U	10 OI
Hexachlorocyclopentadiene	10 01	10 U	10 U	10 U	10 U
	10 U 10 U	10 U	10 U	10 U	10 U
	25 25 U	25 U	25 U	25 U	25 U
	10 U	10 U	10 U	10 U	10 U
		25 U	25 U	25 U	25 U
9	10 U	10 U	10 U	10 U	10 U
4		10 11	10 U	10 01	10 U
		11 01	1101	11 01	10 01
		1101	1011	1101	
			11 90	35.11	11 30
		0 67	0.67	0.62	0.52
2,4-Dinitrophenol		25 U	25 U	25 U	25 0
		10 U	10 U	0.01	ſ I
iene	10 U	n or	001	10 01	0 01
4-Nitrophenol	25   25 U	25 U	25 U	25 U	25 U

Site		7	9	9	٧	4
Location		MW2	MW3A	MW3	cwM	NAW1
Sample Depth						T 44 TAT
Sample Number		7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2	6-MW2-GW2	6-MW1-GW3
Laboratory Sample ID		9607375-06	9607404-03	9607404-01	9607404-08	9607404-06
Matrix		water	water	Water	water	water
Date Sampled		96/6/L	1/10/96	7/10/96	7/10/96	96/01/2
Date Analyzed	— <u>.</u>	7/22/96	7/22/96	7/22/96	7/23/96	7/22/96
Fluorene	10 I	10 11	10 11	11.01	11.01	
4-Chlorophenvi-nhenvlether	12	11 01			0.01	-
Diethylphthalate			001	0.01	0 01	10 U
A-Nitronniline	-	0 3	0 01	10 01	10 U	10 U
	57	25 U				
lou	- 52	25 U				
	10	10 U				
4-Bromophenyl-phenylether	10	10 U				
£)	10	10 U	10 U	10 U	10 U	101
enol	25	25 U				
16	10	10 U	10 U	10 U	10 U	1.1
Anthracene	- 01	10 U	10 U	10 U	10 U	1.1
	10	10 U	10 U	10 U	10 U	10 O
haiate	10	1 J	10 U	1.1	10 U	10 U
thene	10	10 U	10 U	10 U	10 U	1.1
	10	10 U				
	01	10 U				
ne	10	10 U				
nthracene	10	10 U	10 U	10 U	10 U	U 01
	10	10 U	10 U	10 U	10 U	11 01
thalate	01	10 U	10 U	10 U	10 U	10 D
	10	10 U	10 U	10 U	10 01	10 01
	01	10 U	10 U	10 U	10 U	10 01
thene	10	10 U	10 U	10 U	10 U	10 O
	10	10 U				
0	10	10 U				
9	10	10 U				
	10	10 U				
Total TIC concentration		154	830	395	37	1900
oil, (ug/L) Water	T/gu					
Dilution Factor		1	1	1	-	
Sample Weight/Volume	_					

	1	MW2		I-MW2-GW3	9607375-04	water	96/6/1	7/22/96		10 U	10 U	10 U	10 U				0.01	0.01	10 U		10 U	10 U	10 U	10 U	10 U	10 U	Ω 01	10 U	10 U	10 U	10 U	10 U	10 U		10 U	25 U	10 U	10 U	10 U	10 U	25 U	25 U	10 U	10 U	
Semivolatile Organic Compounds	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed	CRQL	bis(2-Chloroethyl)ether 10	Phenol 10	2-Chlorophenol	1,3-Dichlorobenzene 10	1,2-Dichlorobenzene	loropropane)	2-Methylphenol		propylamine	loi	Nitrobenzene 10	Isophorone 10	2-Nitrophenol	2,4-Dimethylphenol	bis(2-Chloroethoxy)methane 10	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	Naphthalene 10	4-Chloroaniline	Hexachlorobutadiene 10	4-Chloro-3-methylphenol		diene		2,4,5-Trichlorophenol	2-Chloronaphthalene	2-Nitroaniline 25	Acenaphthylene 10	Dimethylphthalate 10	2,6-Dinitrotoluene	Acenaphthene 10	3-Nitroaniline	2,4-Dinitrophenol 25	Dibenzofuran 10	2 4-Dinitrotoluene	

-	MW2	1-MW2-GW3	90U/3/5-U4 water	96/6/L	7/22/96		10 U	10 U	1 J	25 U	25 U	10 U	10 U	10 U	25 U	10 U	D 01		10 01	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13		-					
Semivolatile Organic Compounds Site						CRQL		4-Chlorophenyl-phenylether	10		4,6-Dinitro-2-methylphenol	10	4-Bromophenyl-phenylether	10	25	10	10	10	10	10	10	0 9	01	10	bis(2-Ethylhexyl)phthalate 10	10	10	10	10	01	10	10		Units (mg/kg) Soil, (ug/L) Water ug/L	

Inorganics	•					
Site		∞	00	•	<b>ec</b>	00
Location		MW3	MW3	MW2A	MW2A	MW2
Sample Depth						
Sample Number		8-MW3-GW2 (Diss.)	8-MW3-GW2	8-MW2A-GW2 (Diss.)	8-MW2A-GW2	8-MW2-GW2 (Diss.)
Laboratory Sample ID		9607404-14	9607404-13	9607404-19	9607404-18	9607404-17
Matrix		water	water	Water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96
	CRDL					
Antimony	9*	ns	D S	υs	ρs	2 0
Arsenic	10	1.1	1.1 UJ	1.1 J	2 UJ	1 U
Barium	200	123 J	137 J	54.2 J	118 J	52.9 J
Bervllium	*	0.3 J	0.3 J	0.3 J	0.7 J	0.3 J
Cadmium	\$	2 U	2 U	2 U	2 U	2 U
Chromium	10	Ω9	7.4 J	Ω9	0.9	Ω9
Copper	25	4 U	4 U	4 U	4 U	4 U
Lead	3	1 U	UI	n I	2.6 J	1 U
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	. SU	5 U	0 S	SU	D S
Selenium	S	10	15 I	10	1 UJ	1 U
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	*2	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	25.1	20.8 U	7.2 J	22.7	3.8 J
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	1/8n					
	•					

Site		000	000	00	٢	•
Location		MW2	MWI	MWI	, WW.	Army.
Sample Depth						CWIN
Sample Number		8-MW2-GW2	8-MW1-GW2 (Diss.)	8-MW1-GW2	7-MWS-GW2 (Disc.)	7.NVSZWZ
Laboratory Sample ID		9607404-16	9607404-12	9607404-11	50-5757096	10-57270AP
Matrix		Water	water	Water	ratem	TO-SICCOO
Date Sampled		7/10/96	7/10/96	96/01/2	96/6/L	7/0/0C
Date Analyzed		7/19-27/96	7/17-24/96	96/16-61/1	27/17	20,55,01,5
	CRDL				06/47-11/1	06/17-61/1
Antimony	9*	5.0	SU	· 10 5	11 8	11.5
Arsenic	10	2 UJ	10	1.1 UI	1111	11.00
Barium	200	134 J	36.9 J	1.49.1	1 62 1	1.6
Beryllium	*	0.8 J	0.3 J	1.3.1	5 261	777
Cadmium	s	2 U	2 U	2 U	2 11	7 11
Chromium	10	12.7	0.9	7.8 J	) I Y	10.6
Copper	25	5.2 J	0 4 U	1899	4 11	1.00
Lead	3	3.2	111	10		7.0
Mercury	0.2	0.2 U	0.2 11	0.211	100	* * *
Nickel	40	5 U	311	1 6 01	0.2.0	0.2.0
Selenium	٧.	11.1		The state of the s	0 ;	6.1.0
Cilvar	. :	5 :	0 ;	TANO I	חו	I UI
TANK!	01 :	∩ <b>%</b>	3.0	3 U	3 U	3 U
I naibum 2:	* 2	2 UJ	2 U	2 U	2 UJ	2 U
Zinc	20	27.6	4.1 J	49.8	5.3	40.7
Units (mg/kg) Soil, (ug/L) Water	ng/L					

Inorganics	•						
Site		7	7	9	9	9	
Location		MW2	MW2	MW3A	MW3A	MW3	
Sample Depth							
Sample Number		7-MW2-GW2 (Diss.)	7-MW2-GW2	6-MW3A-GW2 (Diss.)	6-MW3A-GW2	6-MW3-GW2 (Dissolved)	
Laboratory Sample ID		9607375-07	9607375-06	9607404-04	9607404-03	9607404-02	
Matrix		water	water	water	water	water	
Date Sampled		96/6/L	96/6/1	7/10/96	96/01/L	1/10/96	
Date Analyzed		7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96	
	CRDL						
Antimony	9*	N S	S U	ΩS	N S	ΩS	
Arsenic	10	1 UI	1 UJ	1 U	2.2 UJ	10	
Barium	200	I 801	118 J	252	366	260	
Beryllium	4	0.3 J	0.3 J	0.3 U	0.6 J	0.3 J	
Cadmium	\$	2 U	2 U	2 U	2 U	2 U	
Chromium	10	Ω9	7 3	Ω9	8.3 J	0.9	
Copper	25	4 U	4 U	4 U	13.9 J	4 U	
Lead	3	ות	1.2 J	1 U	3.5	1 U	
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Nickel	40	0 S	O S	5.7 J	18.1 J	5 U	
Selenium	2	10	UI	1 U	1 51	1 U	
Silver	10	3.0	3 U	3 U	3 U	3 0	
Thallium	* 2	2 U	2 UJ	2 U	2 U	2 UJ	
Zinc	20	9.1 J	18.8 U	6.8 J	33.3	5.6 J	
Units (mg/kg) Soil, (ug/L) Water  • Project-specific CRDL	T/gu						

Location Sample Depth Sample Number Laboratory Sample ID Matrix Date Sampled		9	9	10	4
Sample Number Laboratory Sample ID Matrix Date Sampled	MW3	MW2	MW2	MWI	MWI
Laboratory Sample ID Matrix Date Sampled	6-MW3-GW2	6-MW2-GW2 (Diss.)	6-MW2-GW2	6-MW1-GW3 (Disc.)	6-MW1-GW3
Matrix Date Samuled	9607404-01	9607404-09	9607404-08	9607404-07	9607404-06
Date Sampled	water	water	water	water	water
	2/10/96	7/10/96	7/10/96	7/10/96	96/01/2
Date Analyzed CRDI	7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96
Antimony * 6	5 U	115	11 5	11.5	
Arsenic 10	1 01	1 U	3.6 UI	121	3.0
Barium 200	328	99.9 J	154 J	1.52.1	1 101
Beryllium * 4	0.5 J	0.3 J	0.7 J	1 E 0	150
Cadmium 5	2 U	2 U	2 U	2.0	11 6
Chromium 10	8.9 J	Ω9	11.1	119	11.4
Copper 25	11.1 J	4 U	5.4 J	D 4	1 4
	3.6	1 0	4.3	10	22.1
Mercury 0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel 40	10.3 J	2.0	15.7 J	5 U	n s
Selenium	1 13	1 U	1 UJ	10	TILL I
	3 U	3 U	3 U	3.0	0 £
ınıı	2 U	2 UJ	2 UJ	2 U	2 U
Zinc 20	26.9	8 J	42.7	6.5 J	15.3 U

JP4, Gas, Diesel, Oil Site		800	•	•	•	
Location		MW3	MW2A	MW2	MW1	
Sample Depth						
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	
Matrix		water	water	water	water	
Date Sampled		96/01/L	1/10/96	7/10/96	7/10/96	
Date Analyzed		7/17-24/96	7/18-24/96	7/17-24/96	7/17-24/96	
	*RL					
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U	ı
Diesel range, as diesel	0.25	0.26 NJ	0.25 U	0.25 U	0.25 U	
Oil range, as oil	1	10	1 U	10	1 U	
JP-4	0.25	0.25 UJ	0.25 U	0.25 U	0.25 U	
Units (mg/kg) Soil, (mg/L) Water	mg/L					ı
* RL - Reporting Limit						

Sample Number	MW2	6 MW3A	6 MW3	6 MW2	6 MW1
 ix •	7-MW2-GW2 9607375-06 water 7/9/96	6-MW3A-GW2 9607404-03 water 7/17-24/96	6-MW3-GW2 9607404-01 water 7/10/96	6-MW2-GW2 9607404-08 water 7/10/96	6-MW1-GW3 9607404-06 water 7/10/96
Gasoline range 0.25	89.0	0.25 []	0.25 11	11 30 0	6
Diesel range, as diesel 0.25	0.25 U	3.7 NJ	1N C I	0.23.0	76.0
Oil range, as oil 1	1 U			0 62.0	0.1
0.25	0.25 U	3.3 NI	) Z	0.25	O I

JP4, Gas, Diesel, Oil	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Gasoline range	Diesel range, as diesel	Oil range, as oil	JP-4	Units (mg/kg) Soil, (mg/L) Water	* RL - Reporting Limit
									* RL	0.25	0.25	-	0.25	mg/L	
	-	MW2		1-MW2-GW3	9607375-04	water	96/6/L	7/17-24/96		0.25 U	0.25 U	10	0.25 U		

TBK   MANG-SS3-07-1   MANG-S	TB-K   MANG-SS2-0r-1   MANG-	Volume Organic Compounds Site Location		MANG SS3	MANG SS2	MANG SS1	
Name	New Part			0-1	0-1	0-1	
1,1296   7,1196   7,196	1,10,000   1,10,00   1,1	r mle ID	TB-K 9607475-08	MANG-SS3-0-1' 9607475-03	MANG-SS2-0-1' 9607475-02	MANG-SS1-0-1' 9607475-01	
1712-96   7711	Thi 12.96		water	lios	lios	lios	
CRQL	CROL   7/1996   7/1		7/12/96	7/11/96	7/11/96	7/11/96	
10   10   11   11   11   11   11   11	10   10   11   11   11   11   11   11			7/19/96	7/19/96	7/19/96	
10	10			11 UJ	11 UJ	11 03	
10	10		10 U	11 01	11 UJ	11 UJ	
10	10		10 U	11 13	11 UJ	11 03	
10	10	10	10 U	11 03	11 03	11 00	
10	10		10 U	11 03	11 U	11 UJ	
10	10	10	10	11 UI	11 UJ	11 UJ	
10	10		U 01	l J	11 UI	11 03	
10   10   11   11   11   11   11   11	10		10 U	3.1	f E		
10	10   10   11   11   11   11   11   11		10 U	11 G	11 UI	11 UJ	
10	10	10	10 U	11 G	11 UI	11 W	
10	10   10 U   11 UU	10	10 U	11 GI	11 UJ	11 13	
10	10   10 U   11		10 U	11 53	11 UI	11 03	
10	10		10 U	11 03	11 UJ	11 03	
10	10   10 U   11 UU	10	10 U	11 03	11 UJ	11 03	
10	10		10 U	11 03	11 UJ	11 00	
10	10		10 U	11 UJ	n u	11 UI	
10	10		10 U	11 03	11 UI	11 UJ	
10	10		10 U	11 UJ	11 UJ	11 03	
10	10		10 U	11 UJ	11 UI	11 UJ	
10	10		U 01	11 UJ	5 J	11 UJ	
10	ne         10         11 UU         11 UU           10         10 U         11 UU         11 UU           10         0         0         0           10         0         0         0           10         10         11 UU         11 UU           10         10 U         11 UU         11 UU           10         0         0         0           10         0         0         0           10         10         11 UU         11 UU           10         0         0         0           11         10         11 UU         12           10         0         0 <t< td=""><td></td><td>10 U</td><td>11 03</td><td>11 UI</td><td>11 UJ</td><td></td></t<>		10 U	11 03	11 UI	11 UJ	
10	10		10 U	11 UI	11 UJ	11 UJ	
10	10		10 U	n n	11 03	11 03	
10	10		10 U	11 UI	11 03	11 03	
10	10	10	10 U	F 80	6.1	2 J	
10	10		10 U	11 UJ	11 UI	11 UI	
10 10 11 10 10	10		10 U	11 UJ	11 03	11 UJ	
10 10 11 UJ	10 10 11 UJ	10	10 U	11 U	11 01	11 UJ	
10 10 11 UJ	10 10 11 UJ	10	10 U	11 UI	11 U	11 UJ	
1) 10 10 11 UJ 11	10	10		11 03	11 UJ	11 01	
1) 10 10 11 UJ 11	1) 10 10 11 UJ 11			11 UJ	n n	11 GI	
10 10 U 11 UJ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 10 U 11 UJ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		-	11 UJ	II UI	11 03	
) Water 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3) Water         0         0         0           5) Water         1         1         1           5:0 mL         5:0 g         5:0 g         12           100         7         12		10 U	11 UI	II UI	m II	
.) Water 1 1 1 1 5.0 g 5.0 g	) Water 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	entration	0	0	0	0	
1 1 1 1 1 2.0g 5.0mL 5.0g	1 1 1 5.0 mL 5.0 g 5.0 g 100 7 12	oil, (ug/L) Water					
5.0 mL 5.0 g 5.0 g	5.0 mL 5.0 g 5.0 g 100 T 12		1	1	1		
	7	/Volume	5.0 mL	5.08	5.08	5.0 g	

0				- TO A CO
		DATAM	MAING	DATATAT
Location		SS3	SS2	SSI
Sample Depth		0-1	0-1	0-1
Sample Number		MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-03	9607475-02	9607475-01
Matrix		lios	soil	soil
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed	_	7/24/96	7/24/96	7/24/96
	CRQL		,	
bis(2-Chloroethyl)ether 10	10000	11000 U	11000 U	11000 U
	10000	11000 U	11000 U	11000 U
2-Chlorophenol	10000	11000 U	11000 U	11000 U
1,3-Dichlorobenzene	10000	11000 U	11000 U	11000 U
	10000	11000 U	11000 U	11000 U
	00001	11000 U	11000 U	11000 U
ropane)	10000	11000 U	11000 U	11000 U
	00001	11000 U	11000 U	11000 U
2	20000	22000 U	23000 U	21000 U
pylamine	10000	11000 U	11000 U	11000 U
	10000	11000 U	11000 U	11000 U
	10000	11000 U	11000 U	11000 U
	10000	11000 U	11000 U	11000 U
lo	10000	11000 U	11000 U	11000 U
henoi	10000	11000 U	11000 U	11000 U
methane	10000	11000 U	11000 U	11000 U
2,4-Dichlorophenol	20000	22000 U	23000 U	21000 U
1,2,4-Trichlorobenzene	10000	11000 U	11000 U	11000 U
Naphthalene 10	10000	11000 U	11000 U	11000 U
4-Chloroaniline	10000	11000 U	11000 U	11000 U
Hexachlorobutadiene 10	10000	11000 U	11000 U	11000 U
lone	20000	22000 U	23000 U	21000 U
2-Methylnaphthalene 10	10000	11000 U	11000 U	11000 U
diene	20000	22000 U	23000 U	21000 U
2,4,6-Trichlorophenol	20000	22000 U	23000 U	21000 U
	20000	22000 U	23000 U	21000 U
2-Chloronaphthalene 10	10000	11000 U	11000 U	11000 U
2-Nitroaniline 20	20000	22000 U	23000 U	21000 U
Acenaphthylene 10	10000	11000 U	11000 U	11000 U
Dimethylphthalate 10	10000	11000 U	11000 U	11000 U
	20000	22000 U	23000 U	21000 U
	10000	11000 U	11000 U	11000 U
3-Nitroaniline 50	20000	54000 U	57000 U	53000 U
2,4-Dinitrophenol	10000	110000 U	110000 U	110000 U
	1000	1100 U	1100 U	1100 U
lene	20000	22000 U	23000 U	21000 U
	2000	00077		2000

Semivolatile Organic Compounds

SNAM	Control	100	MANG-SS1-0-1	9607475-01	soil	7/11/96	7/24/96		11000 U	11000 U	11000 U	21000 U	110000 U	11000 U	21000 U	21000 U	110000 U	11000 U	11000 U	11000 U	130 J	190 J	490 J	11000 U	110000 U	11000 U	490 J	11000 U	11000 UJ	540 J	540 J	11000 U	110 J	11000 U	340 J	6100		-	1.0g	9 (
MANG	SSS	-	MANG-SS2-0-1	9607475-02	soil	7/11/96	7/24/96		11000 U	11000 U	11000 U	23000 U	110000 U	11000 U	23000 U	23000 U	110000 U	11000 U	11000 U	11000 U	11000 U	220 J	280 J	11000 U	110000 U	11000 U	11000 U	11000 U	11000 UJ	P 660 J	f 099	380 J	11000 U	11000 U	620 J	4600		1	1.0 g	12
MANG	SS3	0-1	MANG-SS3-0'-1'	9607475-03	lios	7/11/96	7/24/96		11000 U	11000 U	11000 U	22000 U	110000 U	11000 U	22000 U	22000 U	110000 U	11000 U	11000 U	11000 U	11000 U	11000 U	130 J	11000 U	110000 U	11000 U	240 J	11000 U	11000 UJ	170 J	170 J	11000 U	11000 U	11000 U	11000 U	0		-	1.0 g	7
								CRQL	10000	10000	10000	20000	110000	10000	20000	20000	110000	10000	10000	10000	10000	10000	10000	10000	110000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000		ug/kg			
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Fluorene	4-Chlorophenyl-phenylether	Diethylphthalate	4-Nitroaniline	4,6-Dinitro-2-methylphenol	n-Nitrosodiphenylamine	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Carbazole	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	3,3'-Dichlorobenzidine	Benzo[a]anthracene	Chrysene	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	Dibenz[a,h]anthracene	Benzo[g, h, i]perylene	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Sample Weight/Volume	% Moisture

MANG SS3 0-1 MANG-SS3-0'-1'		MANG SS2 0-1 MANG-SS2-0-1'	MANG SS1 0-1 MANG-SS1-0-1'
900/4/3-03 soil	? III	30-14/3-02 soil	960/4/5-01 soil
7/11/96	10	2/11/6	7/11/96
7/23/96 - 8/1/96		7/23/96 - 8/1/96	7/23/96 - 8/1/96
U 28.0		1.1 5	0.83 J
6.8 J		7.6 J	6 J
276 J		458 J	370 J
0.49 J		0.66 J	0.55 J
2.1		11.9	4.3
19.1 J		80.5 J	83.1 J
26.3		63.4	38.9
327		758	173
0.1 1	7	0.1 U	0.08 U
12.8		24.5	14.2
0.17 L	11	0.38 UJ	0.32 U
0.56 U		1.6 J	0.49 U
0.35 U	J	0.38 U	0.32 U
184		368	235
94.3	:	88	93.1

JP4, Gas, Diesel, Oil	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed	•	Gasoline range	JP-4	Diesel range, as diesel		l, (mg/L) Water	% Moisture	* RL - Reporting Limit
	MANG	SS3	0-1	MANG-SS3-0'-1'	9607475-03	lios	96/11/2	7/19-25/96	*RL	5 5.4 UJ	25 27 U	25 680 NJ	100 1300 NJ	mg/kg	9	
	MANG	SS2	0-1	MANG-SS2-0'-1'	9607475-02	lios	1/11/96	7/19-25/96		tu 7.8	28 U	1100 NJ	5500 NJ		12	
	MANG	SS1	0-1	MANG-SS1-0'-1'	9607475-01	lios	7/11/96	7/19-25/96		5.3 UJ	27 U	IN 006	3700 NJ		7	

Low Level Volatile Organic Compounds	_					
Site						
Location						
Sample Depth						
Sample Number		TB-1	TB-I	TB-H	TB-G	PADW-1
Laboratory Sample ID		9607477-05	9607483-03	9607488-05	9607481-03	9607483-02
Matrix		water	water	wafer	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18/96	7/18/96	7/18/96	7/18/96	7/23/96
CRQL	T.					11.1
Chloromethane		); -	0.			
Vinyl chloride		0 !	0.1			
Bromomethane		1 U	10	0.1	10	0.1
Chloroethane		1 U	1 U	1 U	n i	ם י
1,1-Dichloroethene		. 1 U	1 U	1 U	1 U	1 n
Acetone		5 U	5.5	5 U	6.7	20
Carbon disuffide		1 U	1 0	1 U	1 U	1 U
Methylene chloride 2		1.1 J	0.44 J	0.37 J	0.57 J	2 U
trans-1 2-Dichloroethene		1 U	1 U	1 U	1 U	1 U
1 1-Dichlomethane		10	1 U	1 U	10	1 0
cis-1 2-Dichloroethene		1 U	1 U	1 U	1.0	2.2
2-Butanone		SU	0.23 J	N 5	SU	5 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U
Chloroform		1 U	10	1 U	1 U	1 U
1 2-Dichloroethane		10	1 U	1 U	1 0	10
1 1 1-Trichloroethane		1 0	1 U	1 U	1 U	1 U
Carbon tetrachloride		10	1 U	1 U	10	1 U
Benzene		1 U	. 1 U	1 U	10	0.36 J
Trichloroethene		1 U	1.0	10	10	0.15 J
1.2-Dichloropropane		1 U	1 U	1 U	10	1 U
Bromodichloromethane 1		1 U	1 U	1 0	1 U	1 U
cis-1,3-Dichloropropene		1 U	1 U	1 0	1 U	1 U
4-Methyl-2-pentanone		\$ U	5 U	2 U	2 C	S U
Toluene		0.13 J	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene		1 U	1 U	1 U	10	1 U
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U
Tetrachloroethene 1		1 0	10	1 U	1 U	1 U
2-Hexanone 5		S U	D S	5 U	5 U	D \$
Dibromochloromethane 1		1 U	10	1 U	10	<b>n 1</b>
1.2-Dibromoethane		1 U	1 U	ומ	1 U	1 U
Chlorobenzene		1 0	1 U	1 0	1 U	1 U
Ethylbenzene 1		10	1 0	1 U	1 0	0.11 J
Styrene		1 U	1 U	1 0	1 U	n 1
1,1,2,2-Tetrachloroethane		1 U	1 U	1 U	10	1 U
Bromoform		1 U	10	1 U	1 U	1 U
1,3-Dichlorobenzene		1 U	1 U	1.0	10	1 U
1,4-Dichlorobenzene		1 U	1 U	1 U	1.0	1 U

Low Level Volatile Organic Compounds					
Site					•
Location					MW4
Sample Depth					
Sample Number	FB-PW-GW2	FB-DI-GW2	DCPW-1DL	DCPW-1	8-MW4-GW2DL
Laboratory Sample ID	9607481-02	9607481-01	9607483-01DL	9607483-01	9607477-01DL
Matrix	water	water	water	water	water
Date Sampled	7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed	7/18/96	7/18/96	7/23/96	7/23/96	7/23/96
Chloromethane	0.1	n i	100 U	20 U	20 UJ
Virvl chloride	0.1	10	100 U	20 U	20 UJ
Bromomethane	10	10	100 U	20 U	20 UJ
Chloroethane	1 U	1 0	U 001	20 U	20 UJ
1.1-Dichloroethene	1 U	1 U	100 U	20 U	20 UJ
Acetone 5	3.7 J	5 U	8300 D	9009 E	æ
Carbon disulfide	0.44 J	10	100 U	20 U	20 UJ
Methylene chloride 2	0.59 J	2 U	45 JBD	4.8 BJ	40 UJ
trans-1,2-Dichloroethene	10	10	100 U	20 U	20 UJ
1,1-Dichloroethane	10	1 U	100 U	20 U	4.2 J
cis-1,2-Dichloroethene	1 U	1 U	100 U	20 U	220 J
2-Butanone 5	5 U	5 U	200 U	100 U	æ
Bromochloromethane	1 U	10	100 U	20 U	20 UJ
Chloroform	4.9	1 U	100 U	20 U	20 UJ
1,2-Dichloroethane	1 U	1 U	100 U	20 U	20 UJ
1,1,1-Trichloroethane	10	1 U	100 U	20 U	20 UJ
Carbon tetrachloride	1 U	1 0	100 U	20 U	20 UJ
Benzene	1 0	1 U	100 U	20 U	20 UJ
Trichloroethene	1 U	1 U	100 U	20 U	7.4 J
1,2-Dichloropropane	1 U	1 0	100 U	20 U	20 UJ
Bromodichloromethane 1	0.66 J	10	100 U	20 U	20 UJ
cis-1,3-Dichloropropene	1 U	1 U	100 U	20 U	20 UJ
4-Methyl-2-pentanone	2 U	5 U	500 U	100 U	100 UJ
Toluene	1 U	1 0	100 U	20 U	20 UJ
trans-1,3-Dichloropropene	1 U	10	100 U	20 U	20 UJ
1,1,2-Trichloroethane	1 U	1 U	100 U	20 U	20 UJ
Tetrachloroethene	1 U	10	100 U	20 U	20 UJ
2-Hexanone 5	5 U	2 0	500 U	100 U	~
Dibromochloromethane 1	110	10	100 U	20 U	20 UJ
1.2-Dibromoethane	10	1 U	100 U	20 U	20 UJ
Chlorobenzene	1 U	1 U	100 U	20 U	20 UJ
Ethylbenzene	10	n n	100 U	20 U	20 UJ
Styrene	10	1 U	100 U	20 U	20 UJ
1.1.2.2-Tetrachloroethane	10	1 U	100 U	20 U	20 UJ
Bromoform	1 U	1 υ	100 U	20 U	20 UJ
1.3-Dichlorobenzene	1 U	1 U	100 U	20 U	20 UJ
1.4-Dichlorobenzene	1 U	1 U	100 U	20 U	20 UJ

Site						
						•
Location						P VIII V
Sample Depth						W.W.
Sample Number		FB-PW-GW2	FB-DI-GW2	DCPW-1DL	DCPW-1	8-MW4-GW2DI
Laboratory Sample ID		9607481-02	9607481-01	9607483-01DL	9607483-01	9607477-01DL
Matrix		water	water	Wafer	water	rotew
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	96/11/2
Date Analyzed		7/18/96	7/18/96	7/23/96	7/23/96	36/EC/L
	CRQL					
1,2-Dichlorobenzene	1	10	10	100 U	20 U	20 111
1,2-Dibromo-3-chloropropane	-	1 U	1 U	11 001	11 02	111 02
Xylene (total)	1	1 U	10	1001	11 00	11 02
Total TIC concentration		0	0	1900	1800	<u></u>
Units (ug/kg) Soil, (ug/L) Water	ug/L				0001	
Dilution Factor			-	100	00	cc
Sample Weight/Volume	-	25 0 mT	25.0 ml	1-030	27	07

Low Level Volatile Organic Compounds					
Site	•	∞	7	7	-
Location	MW4	MW4	MW4	MW3	MW1
Sample Depth					
Sample Number	8-MW4-GW2	8-MW4-GW2	7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID	9607477-01	9607477-01	9607488-03	9607477-03	9607488-01
Matrix	water	water	water	water	water
Date Sampled	1/11/96	7/11/96	7/11/96	7/11/96	7/11/96
	1/23/96	Composite result	1/26/96	7/18/96	7/23/96
CRQL					
Chloromethane 1	0.17 J	0.17 J	æ	0.19 J	æ
Vinyl chloride	1 UI	1 UI	×	1 UJ	R
Bromomethane 1	1 UI	1 UJ	×	1 UJ	<b>x</b>
Chloroethane	1 01	1 01	~	1 UJ	R
1,1-Dichloroethene	0.59 J	0.59 J	×	1 UJ	R
Acetone 5	~	æ	<b>x</b>	<b>x</b>	~
Carbon disulfide	IO I	1 01	æ	n n	ĸ
Methylene chloride 2	2 UJ	2 UJ	×	2 UJ	<b>x</b>
trans-1,2-Dichloroethene	0.1 J	0.1 J	×	1 UJ	ĸ
1,1-Dichloroethane	5.3 J	5.3 J	æ	0.13 J	<b>x</b>
cis-1,2-Dichloroethene	230 J	220 J	ਲ	0.31 J	ਖ
2-Butanone 5	24	R	<b>~</b>	<b>x</b>	ĸ
Bromochloromethane 1	1 01	I OI	æ	101	R
Chloroform	1.6 J	1.6 J	22	2.9 J	<b>x</b>
1,2-Dichloroethane	1 UJ	1 UJ	<b>x</b>	1 13	<b>x</b>
1,1,1-Trichloroethane	1.2 J	1.2 J	æ	0.2 J	~
Carbon tetrachloride	0.18 J	0.18 J	æ	1 03	<b>x</b>
Benzene	10.1	1 UI	0.44 J	1 UJ	0.19 J
Trichloroethene	8.5 J	8.5 J	<b>X</b>	0.67 J	R
1,2-Dichloropropane	1 UJ	1 UJ	R	I CI	R
Bromodichloromethane 1	0.15 J	0.15 J	ద	10.1	2
cis-1,3-Dichloropropene	1 01	u u	<b>x</b>	n n	<b>x</b>
4-Methyl-2-pentanone	s ur	s ur	~	s us	æ
Toluene	2.3 J	2.3 J	1.5 J	1.9 J	æ
trans-1,3-Dichloropropene	ı u	1 03	æ	501	<b>∞</b> 1
1,1,2-Trichloroethane	1 UI	1 03	æ	1 0	oci i
Tetrachloroethene 1	2 J	2 J	æ	0.45 J	×
2-Hexanone 5	~	<b>X</b>	24	<b>x</b>	œ
Dibromochloromethane 1	1 UI	1 UI	æ	1 01	2
1,2-Dibromoethane	1 03	1 UJ	<b>x</b>	1 01	Я
Chlorobenzene	1 UI	1 01	R	I OI	æ
Ethylbenzene	1 UI	1 03	0.69 J	1 UI	<b>x</b>
Styrene	101	1 U	æ	1 01	24
1,1,2,2-Tetrachloroethane	1 UI	1 UI	K	1 UJ	æ
Bromoform	1 UI	1 UJ	<b>x</b>	0.19 J	æ
1,3-Dichlorobenzene	1 UI	1 UI	~	ı uı	<b>∞</b> . ∣
1,4-Dichlorobenzene	1.2 J	1.2 J	0.88 J	0.94 J	≃.

Semivolatile Organic Compounds Site	_				00
Location Samule Denth					MW4
Sample Number	PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Laboratory Sample ID	9607483-02	9607481-02	9607481-01	9607483-01	9607477-01
Matrix	water	water	water	water	water
Date Sampled	1/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed	7/24/96	7/23/96	7/23/96	7/24/96	7/23/96
CRQL					
bis(2-Chloroethyl)ether 10	10 Ω	10 U	10 U	10 U	10 U
Phenol 10	10 U	10 U	U 01	42	10 U
2-Chlorophenol 10	10 U				
1,3-Dichlorobenzene	10 0	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U				
1,2-Dichlorobenzene	10 U	10 U	10 OI	10 U	10 U
2,2'- oxybis(1-chloropropane) 10	10 U				
2-Methylphenol	10 U				
Hexachloroethane 10	10 U				
N-Nitroso-di-n-propylamine 10	10 U				
4-Methylphenol	10 U				
Nitrobenzene 10	10 U				
Isophorone 10	10 U	10 U	10 U	10 OI	10 U
2-Nitrophenol	10 U				
2.4-Dimethylphenol	10 U				
methane	10 U				
2,4-Dichlorophenol	10 U				
ene	10 U				
Naphthalene 10	10 U				
9	10 U				
Hexachlorobutadiene 10	10 U				
4-Chloro-3-methylphenol	10 U				
2-Methylnaphthalene 10	10 U				
Hexachlorocyclopentadiene 10	10 U				
2,4,6-Trichlorophenol	10 U				
2,4,5-Trichlorophenol	25 U				
2-Chloronaphthalene 10	10 01	10 U	10 U	10 U	10 U
2-Nitroaniline 25	25 U				
Acenaphthylene 10	10 U	10 U	10 U	10 U	U 01 .
Dimethylphthalate 10	10 U	10 U	10 U	10 U	10 OI
2.6-Dinitrotoluene	10 D	10 U	10 U	10 U	10 U
Acenaphthene 10	10 U				
3-Nitroaniline	25 U				
2,4-Dinitrophenol 25	25 U				
Dibenzofuran 10	10 U				
2,4-Dinitrotoluene	10 U				
4-Nitrophenol 25	25 U				

Semivolatile Organic Compounds	_					
Location						8 MW4
Sample Depth						
I aboratory Sample ID		FADW-1	FB-FW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Matrix		70-194/006	960/481-02	9607481-01	9607483-01	9607477-01
Date of section		wafer	water	Water	Water	water
Late Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed	_ IO@O	7/24/96	7/23/96	7/23/96	7/24/96	7/23/96
Fluorene	10	10 17	10.11	11.01		
4-Chlorophenyl-phenylether		1101		0.01	0.01	10 U
	-	0 01	10 U	10 U	10 U	10 U
	2 :	10 0	10 U	10 U	10 U	10 U
	25	25 U				
lou	25	25 U				
	10	10 U	10 U	10 U	10 OI	11 01
4-Bromophenyl-phenylether	01	10 U	10 U	10 U	D 01	11 01
43	10	10 U	10 U	10 U	1001	101
Pentachlorophenol		25 U	25 U	25 U	25 U	25.11
16	10	10 U	10 U	10 U	10 D	101
0	10	10 U	10 U	10 U	10 U	10 11
	10	10 U	10 U	10 U	D 01	101
halate	10	10 U	10 U	10 U		-
ithene	10	10 U	10 U	10 U	D 01	11 01
	- 01	10 U	10 U	10 U	D 01	101
	10	10 U	10 U	10 U	11 01	10 01
ne	01	10 U	10 U	10 U	U 01	11 01
nthracene	10	10 U	10 U	10 U	11 01	10.01
	10	10 U	10 U	10 U	11 01	101
thalate	01	1 BJ	1 J	1.3	28 B	12.01
	10	10 U	10 U	10 U	1 6	
	10	10 U	10 U	10 U	11 01	101
thene	10	10 U	10 U	10 U	10 01	10 11
	10	10 U	10 U	10 U	101	10 11
•	10	10 U	10 U	10 U	10 U	101
2	10	10 U	10 U	10 U	10 U	10.17
	10	10 U	10 U	10 U	10 U	10 17
Total TIC concentration		20	22	26	177	32
oil, (ug/L) Water	J/8n					10
Dilunon Factor		peri	1	1	1	I
Sample Weight/Volume	_	1000 mL				

MW4	Semivolatile Organic Compounds	_	٢	٢	-	
TAMW4-GW2	cation		MW4	MW3	MW1	
Day	Sample Depth					
Day	mple Number		7-MW4-GW2	7-MW3-GW3	I-MWI-GW2	
Wader   Washer   Wa	boratory Sample ID		9607488-03	9607477-03	9607488-01	
Tilly   Till	atrıx		Water	Water	Walch	
CRQL   7/24/96	ate Sampled		7/11/96	7/11/96	7/11/96	
New Carrow Car		_	7/24/96	7/23/96	7/24/96	
her 10 10 10 10 10 10 10 10 10 10 10 10 10						
10   10   10   10   10   10   10   10			10 U	10 U	10 U	
10   10   10   10   10   10   10   10			10 U	10 U	10 U	
10   10   10   10   10   10   10   10			10 U	10 U	10 U	
propane) 10 10 U	zene		10 U	10 U	10 U	
propane) 10 10 U			10 U	10 U	10 U	
yangane) 10 10 10 10 10 10 10 10 10 10 10 10 10			10 U	10 U	10 U	
10   10 U   10			10 U	10 U	10 U	
10   10 U   10			10 U	10 U	10 U	
10   10 U   10			10 U	10 U	10 U	
10	pylamine		10 U	10 U	10 U	
10			10 U	10 U	10 U	
10			10 U	10 U	10 U	
methane 10 10 U			10 U	10 U	10 U	
10   10 U   10			10 U	10 U	10 U	
methane         10         10 U         10 U           sine         10 U         10 U         10 U           ine         10 U         10 U         10 U           ind         10 U         10 U         10 U           ind <th></th> <th></th> <th>10 U</th> <th>10 U</th> <th>10 U</th> <th></th>			10 U	10 U	10 U	
the time of the time of the time of the time of time o			10 U	10 U	10 U	
10			10 U	10 U	10 U	
10   10 U   10	ene		10 U	10 U	10 U	
10   10 U   10			10 U	10 U	10 U	
Hend 10 10 U			10 U	10 U	10 U	
itiente 10 10 U			10 U	10 U	10 U	
10     10 U     10 U       25     25 U     10 U       26     25 U     25 U       10     10 U     10 U       25     25 U     25 U       10     10 U     10 U       25     25 U     25 U       25     25 U     25 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       26     25 U     25 U       27     25 U     25 U       28     25 U     25 U       29     25 U     25 U       20     25			10 U	10 U	10 U	
sliene         10 U         10 U           10         10 U         10 U           25         25 U         25 U           10         10 U         10 U           25         25 U         25 U           25         25 U         25 U           10         10 U         10 U           10         10 U         10 U           25         25 U         25 U           25         25 U <th></th> <th></th> <th>10 U</th> <th>10 U</th> <th>10 U</th> <th></th>			10 U	10 U	10 U	
10     10 U     10 U       25     25 U     25 U       10     10 U     10 U       25     25 U     25 U       26     25 U     25 U       10     10 U     10 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       25     25 U     25 U       26     25 U     25 U       27     25 U     25 U       28     25			10 U	10 U	10 U	
25     25 U     25 U       10     10 U     10 U       25     25 U     25 U       10     10 U     10 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       26     25 U     25 U       10     10 U     10 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       26     25 U     25 U       27     25 U     25 U       28     25 U     25 U       29     25 U     25 U       26     25 U     25 U       27     25 U     25 U			10 U	10 U	10 U	
10     10 U     10 U       25     25 U     25 U       10     10 U     10 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       25     25 U     25 U       10     10 U     10 U       10     10 U     10 U       25     25 U     25 U       26     25 U     25 U			25 U	25 U	25 U	
25			10 U	10 U	10 U	
10 10 0 10 U 10 U 10 U 10 U 10 U 10 U 1			25 U	25 U	25 U	
10 10 10 10 10 10 10 10 10 10 10 10 10 1			10 U	10 U	10 U	
10 10 U 1			10 U	10 U	10 U	
10 10 10 U 10 U 25 U 2			10 U	10 U	10 U	
25 25 U 25 U 25 25 U 25 U 25 U 10 10 U 10 U 10 U 25 U 25 U 25 U 25 U			10 U	10 U	10 U	
25 25 U 25 U 10 U 1			25 U	25 U	25 U	
10 10 U 10 U 10 U 10 U 25 U 25 U	lon		25 U	25 U	25 U	
10 10 U 10 U 25 U 25 U			10 U	10 U	10 U	
25 25 U 25 U			10 U	10 U	10 U	
			25 11	25 11	25 U	

Semivolatile Organic Compounds

•	1,41171	T AN TAI	1-MW1-GW2	9607488-01	water	7/11/96	7/24/96		10 U	10 U	10 U	25 U	25 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.01	10 U	10 U	10 U	10 U	10 01	10 U	10 U	9			1000 mL
۲	MW3		7-MW3-GW3	9607477-03	water	7/11/96	7/23/96		10 U	10 U	10 U	25 U	25 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U.	10 U	10 U	10 U	10 U	10 U	13		1	1000 mL
7	MW4		7-MW4-GW2	9607488-03	water	7/11/96	7/24/96		1 J	10 U	10 U	25 U	25 U	10 U	10 U	10 U	25 U	10 U	1 J	10 U	10 U	10 J	1 6	10 U	10 U	2 J	2.3	10 U	10 U	2 J	2 J	1. J	1 J	10 U	1 J	1070		1	1000 mL
								CRQL	10	10	10	25	25	10	10	10	25	10	10	10	10	10	01	10	10	10	10	10	10	10	10	10	10	10	10		1/gn		
Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Fluorene	4-Chlorophenyl-phenylether	Diethylphthalate	4-Nitroaniline	4,6-Dinitro-2-methylphenol	n-Nitrosodiphenylamine	4-Bromophenyl-phenylether	Hexachlorobenzene	Pentachlorophenol	Phenanthrene	Anthracene	Carbazole	Di-n-butylphthalate	Fluoranthene	Pyrene	Butylbenzylphthalate	3,3'-Dichlorobenzidine	Benzo[a]anthracene	Chrysene	bis(2-Ethylhexyl)phthalate	Di-n-octylphthalate	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Indeno[1,2,3-cd]pyrene	Dibenz[a,h]anthracene	Benzo[g,h,i]perylene	Total TIC concentration	Units (ug/kg) Soil, (ug/L) Water	Dilution Factor	Sample Weight/Volume

Inorganics						
Site						œ
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2 (Diss.)
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-02
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96
	CRDL					
Antimony	9*	n \$	5 U	5 U	7.2 MW	0.8
Arsenic	10	1.8 B	2.9 BW	1.3 B	8 BW	0.1
Barium	200	29.9 B	53.3 B	4 U	31.8 B	87.3 J
Beryllium	*	0.3 U				
Cadmium	2	2 U	2 U	2 U	2 U	2 U
Chromium	9	n 9	6.3 B	n 9	24.3	Ω9
Compet	22	4 U	12.1 B	4 U	13 B	4 U
Lead	3	10	2.6 B	1 0	1 U	1 U
Mercury	0.2	0.2 U				
Nickel	40	5 U	5 U	2 0	S U	SU
Selenium	2	1.8 B	1 UW	1 UW	3 U	1 01
Silver	10	3.0	3 U	3.0	3 U	3 U
Thallium	*2	2 UW	2 U	2 U	2 UW	2 U
Zinc	20	9.2 B	1180	4.5 B	26.2	11.8 U
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	ng/L			·		

Inorganics						
Site		∞	7	1	7	7
Location		MW4	MW4	MW4	MW3	MW3
Sample Depth		***************************************				
Sample Isumoer		8-MW4-GW2	7-MW4-GW2 (Diss.)	7-MW4-GW2	7-MW3-GW3 (Diss.)	7-MW3-GW3
Laboratory Sample ID		9607477-01	9607488-04	9607488-03	9607477-04	9607477-03
Matrix		Water	water	Water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	96/11/2
Date Analyzed		7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	36/C/8 - 36/EC/L
	CRDL					
Antimony	9 *	6 9	5 U	\$ U	SU	n \$
Arsenic	10	1 UI	1.5 J	2.3 J	10	II I
Barium	200	135 J	269	371	53.4 J	102 J
Beryllium	<b>*</b>	0.3 U	0.3 U	0.5 J	0.3 U	0.4 J
Cadmium	٧,	2 U	2 U	2 U	2 U	2 U
Chromium	01	13.6	7.7 J	21.6	9.7 J	11.3
Copper	25	4 U	4 U	7.8 J	4 U	4 0
Lead	e	1.4 J	1 U	2.7 J	10	1.6 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	ns.	13.5 J	N 5	5 U
Selenium	s	10	I UI	1 UJ	10	1 UJ
Silver	10	3 U	3 U	U.S.	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 U	2 UJ	2 UJ
Zinc	20	31.4	11 U	50.5	14.2 U	43.8
Units (mg/kg) Soil, (ug/L) Water * Project-specific CRDL	T/Sin					

	1	MW1		1-MW1-GW2	9607488-01	water	96/11/L	7/23/96 - 8/2/96		S U	1.7 J	36.6 J	0.3 U	2 U	9.9 J	4 U	1 U	0.2 U	5 U	3.9 J	3 U	2 U	109		
	1	MW1		1-MW1-GW2 (Diss.)	9607488-02	water	7/11/96	7/23/96 - 8/2/96		ΩS	10	30.8 J	0.3 U	2 U	8.2 J	4 U	10	0.2 U	0 S	4.1 J	3.0	2 UJ	80.8		_
									CRDL	9*	10	200	* 4	\$	10	25	3	0.2	40	5	10	* 2	20	ng/L	
Inorganics	Site	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Units (mg/kg) Soil, (ug/L) Water	* Project-specific CRDL

JP4, Gas, Diesel, Oil	_					
Site						90
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18-25/96	7/18-25/96	7/18-25/96	7/18-25/96	7/18-24/96
	*RL					
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Diesel range, as diesel	0.25	0.26	0.25 U	0.25 U	0.39	0.25 U
Oil range, as oil	-	10	1 U	10	1 U	1 0
JP-4	0.25	0.25 U				
Units (mg/kg) Soil, (mg/L) Water						
	-					

JP4, Gas, Diesel, Oil					
Site		7	7	-	
Location		MW4	MW3	MWI	
Sample Depth					
Sample Number		7-MW4-GW2	7-MW3-GW3	1-MW1-GW2	
Laboratory Sample ID		9607488-03	9607477-03	9607488-01	
Matrix		water	water	Water	
Date Sampled		7/11/96	7/11/96	7/11/96	
Date Analyzed		7/18-25/96	7/18-24/96	7/18-25/96	
	* RL				
Gasoline range	0.25	0.48 J	0.25 UJ	R	
Diesel range, as diesel	0.25	1.8	0.26 NJ	0.36 NJ	
Oil range, as oil	1	10	1 U	1 U	
JP-4	0.25	7.7	0.25 U	0.25 U	
Units (mg/kg) Soil, (mg/L) Water * RL - Reporting Limit					

Inorganics	•				
Site		∞	<b>∞</b>	∞	<b>∞</b>
Location			SB9	SB9	SB9
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04
Matrix		water	soil	lios	lios
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
	CRDL				
Antimony	9*	s uw	0.86 UJ	0.84 UJ	U \$6.0
Arsenic	10	NO 1	S	3.1	22.4
Barium	200	4 U	209	130	168
Beryllium	* 4	0.3 U	0.42 J	0.3 J	0.53 J
Cadmium	S	2 U	0.35 U	0.35 U	0.36 U
Chromium	10	Ω9	14.5	7.3	11.1
Copper	25	4 U	10.9	24.9	36.6
Lead	3	1 U	6.5	6.1	17.2
Mercury	0.2	0.2 U	0.07 U	U 60.0	0.11 U
Nickel	4	5 U	10.9	7.9	9.2
Selenium	\$	1 U	0.17 UJ	0.17 UJ	U 61.0
Silver	10	3 U	0.53 U	0.53 U	0.53 U
Thallium	*2	2 U	0.34 U	0.33 U	0.38 U
Zinc	20	11 B	56	56.4	67.8
Units (mg/kg) Soil, (ug/L) Water	ng/L				
% Solids		0	91.6	91.2	87.8
* Project-specific CRDL	_				

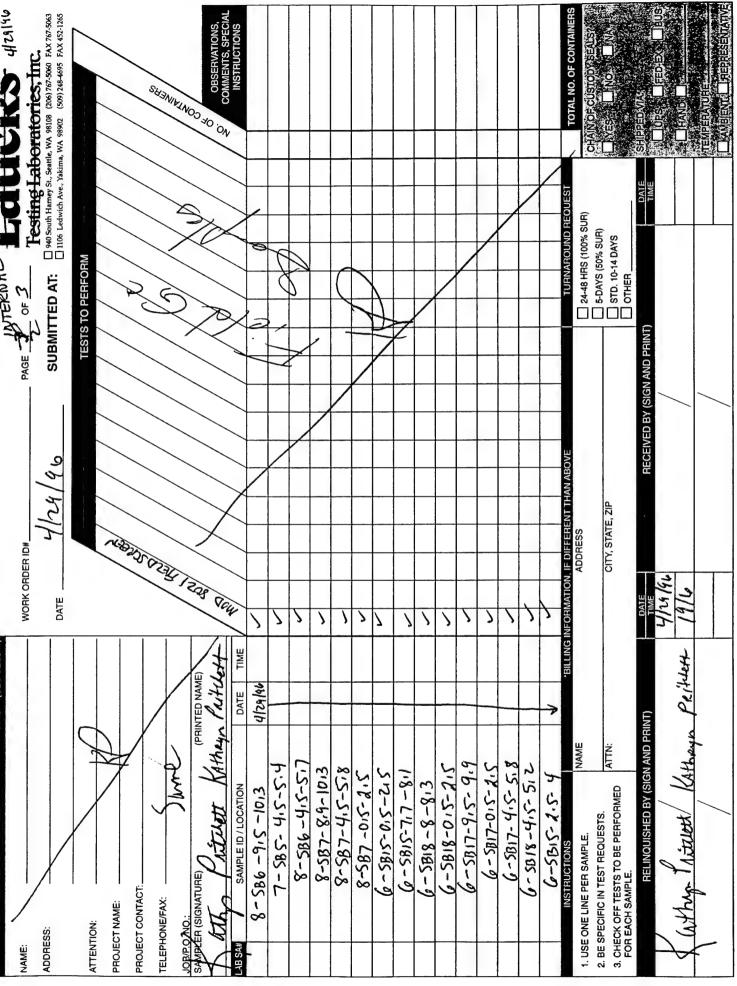
		∞	•	٥	•
Location		SB10	0183	o citio	
Commis Don't			0177	0190	SBS
indeci e		6.6-6	4.5-6.5	1-3.	8-8.6
Sample Number		8-SB10-9-9.9	8-SB10-4.5-6.5	8-SB10-1-3	7.8B5-8-8 6
Laboratory Sample ID		9605024-10	9605024-09	9605024-08	9604830-03
Matrix		lios	lios	100	10-000-000
Date Sampled		4/30/96	4/30/06	lios Voi oci v	lios
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	6/0/96	4/27/96
	CRDL			06/11/0-06/6/6	3/3/30 - 0/14/30
Antimony	9*	0.88 UJ	III 86 0	0.96 111	111 000
Arsenic	10	6.7	23	3.8	70.0
Barium	200	93.9	001	0.0	3.1
Beryllium	*		001	677	390
	<del>,</del>	0.34 J	0.37 J	0.36 J	0.55
Cadmium	'n	0.34 U	0.34 U	0.36 U	0.37
Chromium	10	6.1	6	9.1	113
Copper	25	22.1	11.5	159	24.2
	"	ox	1 5	6.01	24.3
Mercilia	, ;	3 4	J.C	6.7	7.7
	7:0	0.14	O 60'0	O 60:0	60.0
Nickel	40	11.2	8.8	9.1	9.5
Selenium	S	0.18 UJ	0.2 UJ	U 61.0	0.16
Silver	10	0.52 U	0.51 U	0.54 11	\$\$ O
Thallium	*2	0.35 U	0.39 U	0.38 U	0.53
	20	54.4	000	43.00	653
Units (mg/kg) Soil, (ug/L) Water	ng/L				3.50
% Solids		91.7	82.1	90.4	1 00
			*:**	1,00	76

Inorganics	•				
Site		7	7	9	9
Location		SBS	SB5	SB16	SB16
Sample Depth		4.5-5.4	1-3.	8.5-9.5	3.9-4.5
Sample Number		7-SB5-4.5-5.4	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3.9-4.5
Laboratory Sample ID		9604830-02	9604830-01	9605024-03	9605024-02
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96
_	_	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
	CKDL				
Antimony	9*	0.85 UJ	U 68.0	0.91 UJ	0.86 UJ
Arsenic	10	1.9	11.1	3.1	7.2
Barium	200	132	158	115	250
Beryllium	* 4	0.33 J	0.78	0.23 J	0.37 J
Cadmium	\$	0.34 U	0.37 U	0.36 U	0.36 U
Chromium	10	7.2	14.2	10.5	12
Copper	25	16	32.1	8. <del>8</del>	17.6
Lead	3	17.5	13.5	4.6	8.5
Mercury	0.2	0.08 U	0.08 U	O 60'0	O 80'0
Nickel	40	7.2	13.6	5.6 J	9.4
Selenium	2	0.17 UJ	0.18 UJ	0.18 UJ	0.17 UJ
Silver	10	0.52 U	0.56 U	0.54 U	0.53 U
Thallium	*2	0.34 U	0.36 U	0.36 U	0.35 U
Zinc	20	55.3	68.6	34,9	40.6
Units (mg/kg) Soil, (ug/L) Water	ng/L				
% Solids		91.6	85.7	92.5	90.5
* Project-specific CRDL					

	٥	DW1	4.1-4.6	6-DW1-4.1-4.6	9604830-04	lios	4/77/96	5/9/96 - 6/14/96		111 98 0	30	273	272	0.33 11	13.1	14.9	986	0.12 U	9 8	0.17 111	0.5 11	0.34 U	\$ 25	9.06
v	•	DW1	7.3-7.6	6-DW1-7.3-7.6	9604830-05	lios	4/27/96	5/9/96 - 6/14/96		0.95 UJ	67	259	0.25 J	0.33 U	16.5	34.2	19.1	0.1 U	7.8	0.19 UJ	0.5 U	0.38 U	65.3	92.4
v		SBI6	0.9-3.9	6-SB16-0.9-3.9	9605024-01	lios	4/30/96	5/9/96 - 6/14/96		0.91 UJ	15.2	199	0.52 J	0.35 U	10.4	41.7	14.8	0.09	10.7	0.18 UJ	0.52 U	0.36 U	64.2	87.7
_									CRDL	9*	10	200	* 4	S	10	25	e	0.2	40	2	10	* 2	20	J/gn
Inorganics Site	Location	Location	Sample Depth	Sample Number	Laboratory Sample ID	Matrix	Date Sampled	Date Analyzed		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	Units (mg/kg) Soil, (ug/L) Water % Solids * Project-specific CRDL

## APPENDIX F CHAIN OF CUSTODY

Laucks K. upa/96 AMBIENT | REPRESENTATIVE □uPS □FED-EX □BUS | **Festing Laboratories, Inc.** | 940 South Hamey St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063 | 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265 TEMPERATURE TOTAL NO. OF CONTAINER CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO NO. OF CONTAINERS HAND SHIPPED VIA: ☐ 24-48 HRS (100% SUR) ☐ 5-DAYS (50% SUR) STD. 10-14 DAYS *TESTS TO PERFORM* INTERNAL SUBMITTED AT: RECEIVED BY (SIGN AND PRINT) PAGE CHAIN OF CUSIOUY RECORD 40 CITY, STATE, ZIF ADDRESS TEGG NEWS & TENS WORK ORDER ID# DATE ١ 7 7 Technologies losp. ntistintulemanion wherbe used for heroping billing" (see Below) Perthet TIME Charinadel (40) 483-8026 /485-2800 3480 Charipadel (PRINTED NAME) 4/29/96 +10 683 Emon Valley DATE Katheyn RELINQUISHED BY (SIGN AND PRINT) NAME "Sned Fulls 5-01-5-6-88-8 5-588-4.5-5.5 6-DW1-7,3-7,6 8-5B6-015-24 7-DWI-1,2-3,2 8-508-0,5-4,5 7-5BB-3,5-5,5 7-585-4,5-5,4 - DW1-3,2 -4,2 midael 8-212-985-1 9-1-1-1-1MI-9 7-587-1-3 Och Ridge 7-587-8-8,3 7-505-8-8.6 SAMPLE ID / LOCATION Michael. 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. Downtin 101-7508 7-585-1-3 when 2. BE SPECIFIC IN TEST REQUESTS. 1. USE ONE LINE PER SAMPLE. (SIGNATURE) PROJECT CONTACT: TELEPHONE/FAX: PROJECT NAME: ATTENTION: ADDRESS: NAME AB SA



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ALC 25 Alzala	Testing Laboratories, Inc.  940 South Hamey St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063  1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265		SHAN	OBSERVATIONS, COMMENTS, SPECIAL	INSTRUCTIONS						OHAIN OF, CUSTODY, SEALS?  ☐ YES ☐ NO ☐ NO			CAMPENATURE CONTROL CO	1 10 10
TERNA	PAGE 3 OF 5 Testing SUBMITTED AT: 0.106 Ledwin	TESTS TO PERFORM								TURINAROUND REQUEST	5-DAYS (50% SUR)	AND PRINT)			
CHAIN OF CUSTODY RECORD	work order id# $\sqrt{\frac{124}{4}}$ bate	17.00	The National Property of the National Property							OHMATION, IF DIFFERENT THAN ABOVE ADDRESS	CITY, STATE, ZIP	DATE RECEIVED BY (SIGN AND PRINT)	1/2/194		
TOTAL MICE BE USED FOR REPORTING/BILLING" (SEE BELOW)	ADDRESS:	ATTENTION: PROJECT NAME:	PROJECT CONTACT:	PATTIKYN PRITED NAME)	7-580-0-2 4/29/k					1. USE ONE LINE PER SAMPLE. NAME BILLING INFORM	3. CHECK OFF TESTS TO BE PERFORMED ATTN:	RELINQUISHED BY (SIGN AND PRINT)	the Prithat / Kathayn Paituets		

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FedEx USA Airbill	From (please print)  Date 5/3/46 Sende Sende Sende Sende Sender's M. She	Company OPERALLUNAL TO Address 683 EMORY VALL  Address GB3 EMORY VALL  City OAK RIDGE  Toponomial Billing Reference Information  [2] Your Internal Billing Reference Information  [3] Toponomial First 24 characters will appear on invoiced	Recipient's Free Hucks Name 940 South	Redex location, print Fadex Location, print Fadex Location, print Fadex Location Management (Note Management)	Service Conditions, Declared Velaus, and Limit of Liability – By using the Airbi you agent to the service conditions in our turned. Service fiscule of 18.0 Generating Airbite Conditions in our turned service of Service in Case of Canderic Copy of this service in increases of States of Service in the most increase of Service in Case of Service in Case of Service in the Service of Service in Case of Service in Service of Service in Service of Service in Servic

## TOTAL NO. OF CONTAINER Testing Laboratories, Inc. □ 940 South Harney St., Seattle, WA 98108 (260) 767-5060 FAX767-5063 □ 1106 Ledwich Ave., Yakima, WA 99902 (509) 248-4695 FAX 452-1265 CHAIN OF CUSTODY SE COMMENTS, 96/8/5 S/N NO. OF CONTAINERS Laucks 24-48 HRS (100% SUR) 19/1/60 STD. 10-14 DAYS TESTS TO PERFORM SUBMITTED AT: RECEIVED BY (SIGN AND PRINT) CHAIN OF CUSTODY RECORD CLIFNT COPY 02 BILLING INFORMATION, IF DIFFERENT THAN ABOV Jan 1 ₹3 **2** CITY, STATE, ZIP 26 ADDRESS 131 WORK ORDER ID# 1001 5/3/96 3:30 DATE JUNE 2.45.0 P. 9.45 4:150 dosic 11/167/ 11.GHAZIZAISEH 43/11 11:05 TELEPHONEFAX: (423) 463 - 8070 (423) 403.2800 34:01 36/60/ PHIS INFOAMATION WILL BE USED FOR REPORTING/BILLING' (SEE BELOW) TIME M. GHAZIZADEH (PRINTED NAME) 37830 ShazizADE H DATE RELINQUISHED BY (SIGN AND PRINT) NAME ATTR 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. ", SAMPLE ID / LOCATION Ment, one -MU13 - 20.5 - MW2-20.5 - MW 4-20.5 MW5-20.5 2. BE SPECIFIC IN TEST REQUESTS. · GW 9056-101 -MW2 -20 1. USE ONE LINE PER SAMPLE. Great INSTRUCTIONS PROJECT CONTACT: - MW2 - 787 SAMPLER (SIGNATURE) PROJECT NAME: JOB/P.O. NO.: ATTENTION: ADDRESS LAB SA# NAME

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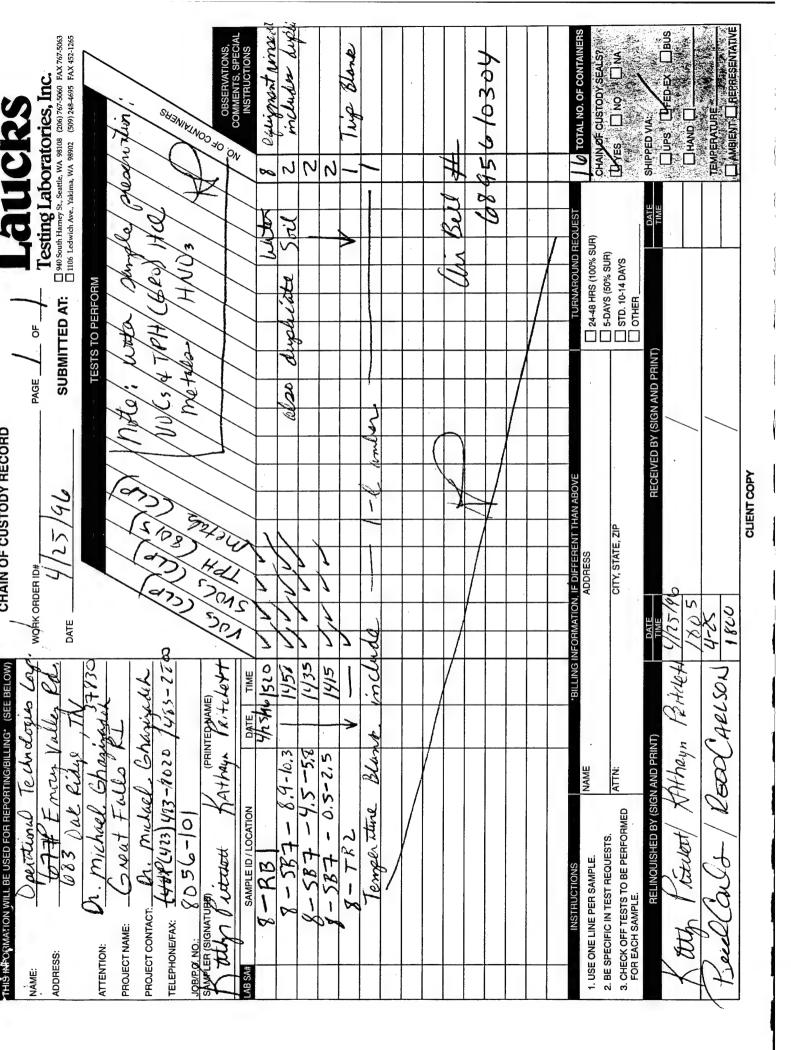
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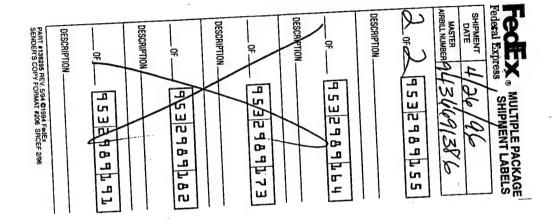
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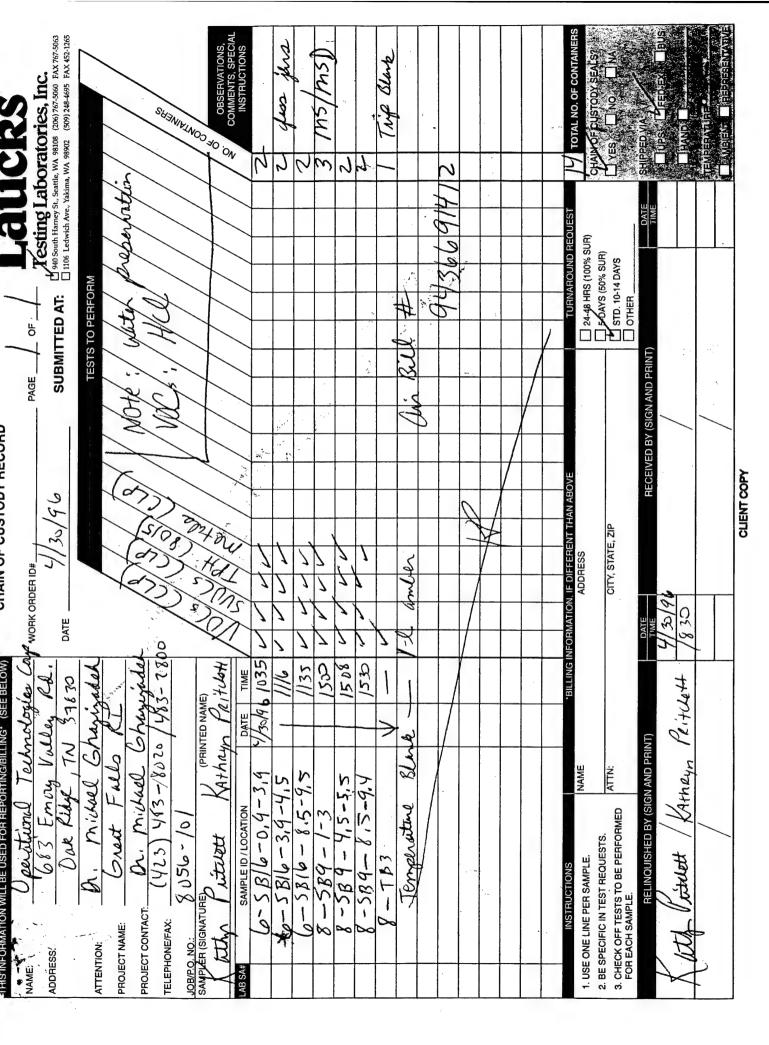
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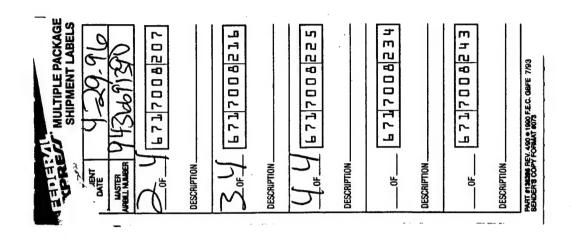
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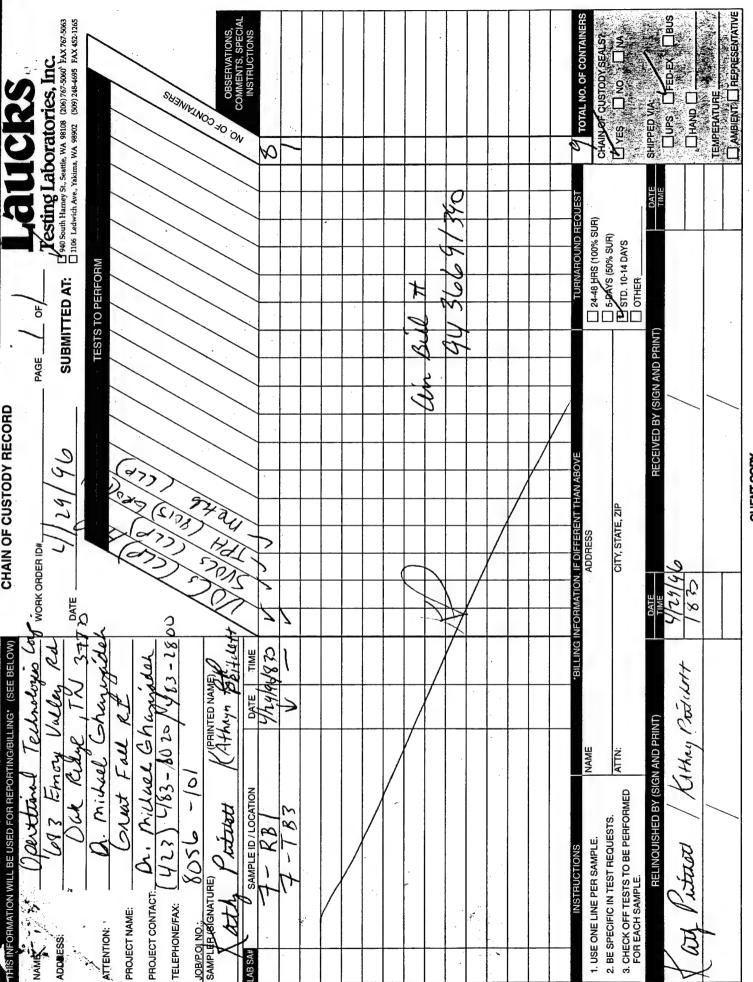
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**CHAIN OF CUSTODY RECORD** 

3013110	Testing Laboratories, Inc.	940 South Hamey St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063				MINER	INOO	OBSERVATIONS, COMMENTS, SPECIAL		3 ms/ms)	7	2	2		2 6	100	Ing Dans			-		/ TOTAL NO. OF CONTAINERS	CHAIN OF CUSTODY SEALS?	NO □ NO	SED VIA:	Unes Crep-ex Deus	□ awyi □	I AMBIENT TREPRESENTATIVE	
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OTHER TESTS TO PERFORM SUBMITTED AT: RECEIVED BY (SIGN AND PRINT) **CHAIN OF CUSTODY RECORD** CLIENT COPY BILLING INFORMATION, IF DIFFERENT THAN ABOVE 140 CITY, STATE, ZIP ADDRESS VORK ORDER ID#. DATE 37830 S171 418/81/2 estrologica 15/46/1615 THIS SINFORMATION WILL BE USED FOR REPORTING/BILLING\* (SEE BELOW) TIME 483-1100 るさされ (PRINTED NAME) shuggedeh PATE Emen Valler RELINQUISHED BY (SIGN AND PRINT Kather Dituet Atheyn NAME ATTN: 755/483-8020 Bunk perational 4-my-60 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. SAMPLE ID / LOCATION Sport 9056-10, とろと 2. BE SPECIFIC IN TEST REQUESTS. Temperature 1. USE ONE LINE PER SAMPLE. INSTRUCTIONS PROJECT CONTACT: TELEPHONE/FAX: PROJECT NAME: ATTENTION: ADDRESS:

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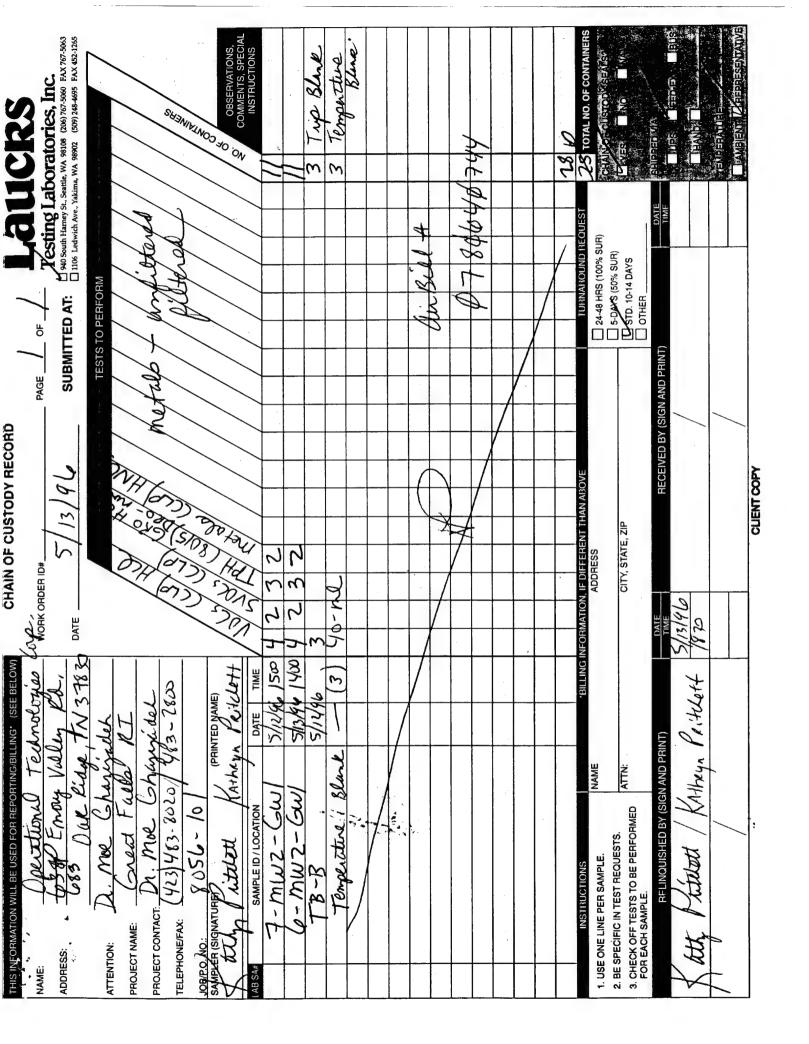
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SUBMITTED AT: Code South Hamey St., Seattle, WA 98108 (200) 745-5063 EAX 452-1265 TOTAL NO. OF CONTAINEF Fuel Tack Standard NO OF CONTAINERS | 24-48 HBS-(100% SUR)-| 5-BAYS (50% SUR) | Z STD: 10-14 DAYS | OTHER TESTS TO PERFORM RECEIVED BY (SIGN AND PRINT) CHAIN OF CUSTODY RECORD alibration CLIENT COPY BILLING INFORMATION. IF DIFFERENT THAN ABOVE ADDRESS CITY, STATE, ZIP WORK ORDER ID# 5/13/46 1430 DATE 082-58/2 KATHERY PRITURE 113/96/60 echnologies TN 37820 THIS HAECRMATION WILL BE USED FOR REPORTING/BILLING\* (SEE BELOW) Kathar Rither sharrades DATE RELINGUISHED BY (SIGN AND PRINT) 483-8010° NAME Fred - MUI - FP Prister pertural CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. SAMPLE ID / LOCATION کے SNEW 2. BE SPECIFIC IN TEST REQUESTS. 1. USE ONE LINE PER SAMPLE. 565 tp8 (422) INSTRUCTIONS Etz PROJECT CONTACT:\_ TELEPHONE/FAX: PROJECT NAME: SAMPLER (9 ADDRESS: AB SA# NAME:



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Recipient's Name  Company Laucks Testing L  Address  Address	Phone (Zdo) 767-50loo  Dept/Floor/Suite/Room  Library A.  Dept/Floor/Suite/Room  Dept/Floor	Payment  Bill Sender Recipient This to: Section 1 will be billed Free FedEx account no.  FedEx Account No.
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□ 940 South Harney St., Seattle, WA 98108 (206) 767-5063 □ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265 CHAIN OF CUSTODY SEALS? TYES NO NA TEMPERATURE HAND -NO. OF COUNTINERS Laucks SHIPPED VIA: TESTS TO PERFORM SUBMITTED AT: Р RECEIVED BY (SIGN AND PRINT) CHENT COPY BILLING INFORMATION, IF DIFFERENT THAN ABOV 45 CITY, STATE, ZIP ADDRESS WORK ORDER ID# 180 92019 DATE IATION WILL BE USED FOR REPORTING/BILLING. (SEE BELOW) TIME TN 37830 Toch who gy Cop 6423) 183 - 8030/(133) 483-3800 6443,3900 64-313906 Brown (PRINTED NAME) 33.196 DATE 17.11.6 RELINQUISHED BY (SIGN AND PRINT) ž Emary Urder NAME ATTN 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. Black michie for 11 5 SAMPLE ID / LOCATION 2. BE SPECIFIC IN TEST REQUESTS. Oper At. soul 739 12( + Sorundive 1. USE ONE LINE PER SAMPLE. G 57 14W 5 SAMPLER (SIGNATURE) 5 7 PROJECT CONTACT: TELEPHONE/FAX: PROJECT NAME: 14 JOB/P.O. NO. ATTENTION: ADDRESS AB SA# NAME

CHAIN OF CUSTODY RECORD



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DATE: 7/10/96 TIME: 4:20 P.M.
TO: Ms Kathy Kneps FAX #: 2012 - 167- 5063
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940 South Hainey Street (INCLUDING HEADER SHEE?)
Seattle, WA 98/08 To: Ms. Kathy Kreps. Tel: 206-767-5060
FROM: Michael Moe Guzinden Oftech Coffention Oak Ridge, To
Oak Ridge, TN 37830 423-483-8020
SUBJECT: Change of Safe Number
REPLY REQUESTED: YESNO
MESSAGE:  Please Change Sople Number 1-MW2-GW2  to 1-MW2-GW3.
Michael M. Chaziandel Ph.D.

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Credit Credit Card No.  Total Packages Total Weight Total Declared Value Total Charges  When declaring a value higher that Still per package, you pay an additional charge Ser SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIMITUTY section for further informations.	rd Party or Credit Car	ndling	5 Packaging  FedEx  FedEx  Declared value limit 5500  Total Packaging  FedEx  FedEx  FedEx  FedEx  FedEx  Tube	For packages over 130 pounds, call for delivery schedule	4 Service Delivery commitment may be later in some areas    FedEx Priority Overnight   FedEx Standard Overnight   FedEx 2Day*   FedEx Govt Overnight   PedEx Standard Overnight   Second business alternoon

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☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER TESTS TO PERFORM SUBMITTED AT: 9 6 RECEIVED BY (SIGN AND PRINT) PAGE\_ CHAIN OF CUSTODY RECORD 100 C BILLING INFORMATION, IF DIFFERENT THAN ABOVE CITY, STATE, ZIP ADDDESS HCL HALL WORK ORDER ID#. 37.196 17 38 DATE 7 08.5 13 19c 13 30 TIME 25.5 THIS INFORMATION WILL BE USED FOR REPORTING/BILLING\* (SEE BELOW) INC. 37830 1433 183-2800 (PRINTED NAME) Brown. 14 1050 1331146 25.14 DATE RELINQUISHED BY (SIGN AND PRINT) NAME 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE. michil SAMPLE ID / LOCATION G W 3 183-8030 6 W 2 2. BE SPECIFIC IN TEST REQUESTS. Blank 1. USE ONE LINE PER SAMPLE. 7132100 100 -12m-スのは・ TELEPHONE/FAX: (423) SAMPLER (SIGNATURE) (A) 3 PROJECT CONTACT: PROJECT NAME: t ATTENTION: ADDRESS 4 LAB SA# NAME

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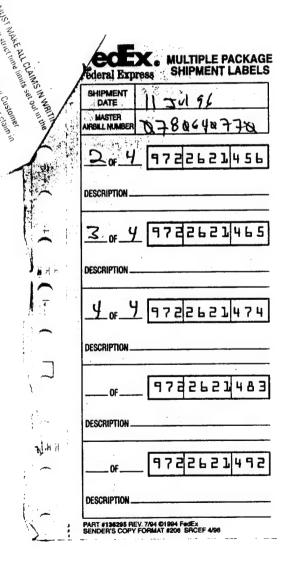
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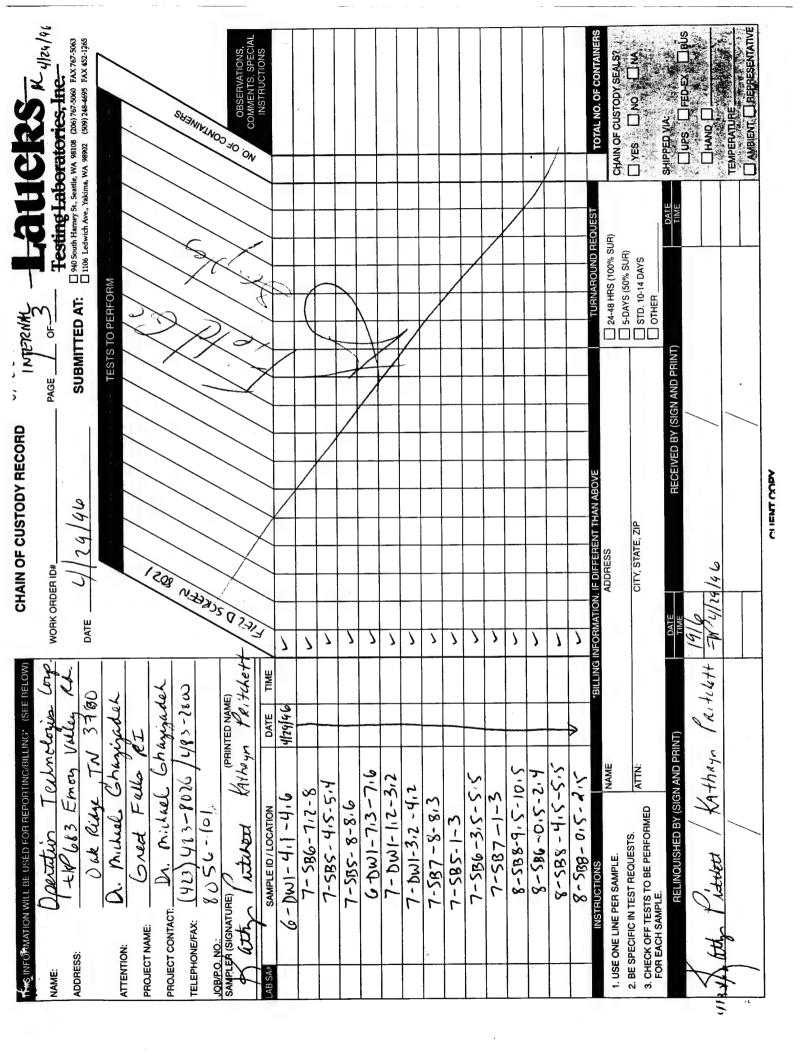
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## APPENDIX G GEOTECHNICAL DATA



Operational Technologies Of Project Name: 8056-101

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# Geotechnical Analysis Results

Sample	Sample	7		Permeability	*	Total Porosity	Moisture Content	ontent	Bulk	Bulk Density	Specific Gravity	Median	Total Organic
a	Location	raidupc	Specific	Emptrical Intrinsic <sup>2</sup>	Empirica] Intrinsic	м	Saturation	ASTR D-2216	Dry	Natural <sup>©</sup>	32/ub	(Trask)	enj/kg
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0-561/	6.0-0.3 6.0-6.3	4/25/1443	107	96	8.2 * 10*	24.4	69.3	8.5	2.01	2.18	2.66	0,1508	7900
A-SR6	6.0-6.7	4/25\1205	\$2	ដ	1.8 * 10-5	23.4	79.8	9.3	2.04	22.2	99.2	0.1450	250
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8-586			82	50	4.3 × 10 <sup>6</sup>	29.1	78.4	12.4	1.87	2.10	2.64	0.1308	2000

Measured and calculated using steady-state methods as described in API RP-40, <u>API Recommended Practice for Core-Analysis Procedure</u>, 1960.

 $<sup>^2</sup>$  Calculated from specific permeability using mathmatical relationship K $\infty$  = 0.68(Kair) $^{1.06}$ 

 $<sup>^{3}</sup>$   $(200/sec) = (200) + (8.58 + 10^{-7})$ 

<sup>\* [(</sup>Water Mass)/(Dry Matrix Mass)] \* 100

<sup>5 (</sup>Dry Sample Mass)/(Bulk Volume)

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## APPENDIX H AQUIFER SLUG TEST

#### APPENDIX H AQUIFER SLUG TEST DATA ANALYSIS

#### X.1 INTRODUCTION

Aquifer slug tests on seven monitor wells were performed to investigate the hydraulic properties of the fine-grained sandstone/siltstone bedrock. A detailed description of the data collection and analysis is presented in the following sections.

The slug test method is used to obtain data necessary to calculate the hydraulic conductivity of the subsurface material around the screened portion of a monitor well. The technique is based on measurements of the water level as a function of time after withdrawing a slug of known volume from the monitor well.

#### X.2 AQUIFER SLUG TEST PROCEDURE

The equipment used for slug testing included a Hermit Environmental Data Logger model SE1000C (serial #1KC-831), manufactured by *In Situ*, Inc. of Laramie, Wyoming. Also used was a pressure transducer model PTD-260 (serial #203217), manufactured by *In Situ*, Inc. Either an acrylic slug (1.25 inches in diameter and 4 feet in length) or a polyvinyl chloride slug (1.25 inches in diameter and 2.5 feet in length) was used to produce the initial water displacement.

Prior to testing, the monitor well was developed and the water level allowed to stabilize. The slug was decontaminated using standard procedures prior to performing the slug test.

Immediately upon opening, the headspace of the monitor well to be slug tested was tested for volatile organic vapors using a photoionization detector. Next, the initial water level was measured and recorded in the field logbook and the pressure transducer was placed in the monitor well and allowed to equilibrate. The proper operating parameters such as time, date, test number, sample rate, number of inputs, data type, and scale factor and offset values of the transducer were inserted to properly program the data logger for the slug test. The decontaminated slug was rapidly lowered into the monitor well in such a manner as to minimize turbulence and splashing. The injection of the slug created a nearly instantaneous rise in the

water level or hydraulic head as well as some transient oscillations (minimized by the smooth slug injection). After the initial rise, the water level of the monitor well dropped as it returned to equilibrium. The water-level altitudes were recorded by the data logger.

After equilibrium was attained, the slug was rapidly and smoothly removed from the monitor well and the subsequent rise of the water level in the monitor well versus the time since the start of the test was also recorded by the data logger.

After the slug test was completed, the data was downloaded onto a computer and printed out by a portable printer.

#### X.3 SLUG TEST DATA ANALYSIS METHOD

The method used for analysis of the slug test data depends on the setting of the monitor well being tested. For monitor wells in unconfined conditions, the Bouwer and Rice (1976) method is the appropriate method to use for reduction of the slug test data to determine values of hydraulic conductivity. The Bouwer and Rice method can also be used for semi-confined and confined conditions (Bouwer, 1989). The static water table intersected below the top of the screen; therefore, the slug test data were obtained from monitor wells that are screened in unconfined conditions.

The data plots and data reduction for the Bouwer and Rice method were accomplished using the AQTESOLV software package Version 2.0 developed by Geraghty & Miller (1994).

The slug test data analyses using Bouwer and Rice (1976) method is presented in this section (Appendix X). The slug test results are presented in Section X.4.

The method described by Bouwer and Rice (1976) is used to calculate the hydraulic conductivity of an aquifer or hydrologic unit in the vicinity of a well screen from the rate of rise or fall of the water level or hydraulic head in the monitor well after a known volume or "slug" is suddenly injected or withdrawn. This particular method is based on the following assumptions: 1) drawdown of the water table around the monitor well is negligible, 2) flow above the water table (in the capillary fringe) can be ignored, 3) head losses as water enters the monitor well (well losses) are negligible, and 4) the aquifer is homogeneous and isotropic.

The rate of flow of ground water into a monitor well after the water level has been lowered a distance, y, below the static water table around the monitor well is calculated using the Thiem equation (Equation 1).

$$Q = 2\pi KL \frac{y}{\ln(R_e/r_w)}, \text{ where}$$
 (1)

Where,

Q = rate of flow into the well;

 $\pi$  = 3.14159, the ratio of the circumference to the diameter of a circle.

K = hydraulic conductivity of the hydrologic unit in the vicinity of the well screen;

L = length of screened interval;

y = vertical difference between water level inside the well and the static water level outside the well;

R<sub>e</sub> = effective radial distance over which y is dissipated; and

radial distance to the undisturbed portion of the hydrologic unit from the centerline of the well.

The value of  $r_w$  is the radius of the screened section of the monitor well plus the thickness of the sand pack and the developed zone around the monitor well. Because the thickness of the developed zone is almost never known, the tendency is to ignore it and take only the thickness of the sand pack into account (Bouwer, 1989).

The rate of rise of the water level (dy/dt) in the well after the water level has been quickly lowered can be regarded as:

$$\frac{\mathrm{dy}}{\mathrm{dt}} = \frac{-\mathrm{Q}}{\pi \, \mathrm{r_c}^2} \tag{2}$$

dy/dt = rate of rise of the water level within the well;

Q = volume rate of flow into well;

 $\pi$  = 3.14159, the ratio of the circumference to the diameter of a circle; and

 $r_c$  = radius of the casing.

If the water level rises in the screened section of the well with a sand pack around it, then the thickness and porosity of the sand pack should be taken into account when calculating the equivalent value of  $r_c$  for the rising water level. The equivalent value of  $r_c$  is then calculated using Equation (3) if the water level is within the screened interval of the monitor well.

$$r_c = [(1 - n)r_c^2]^{1/2}$$
, where (3)

n = porosity of the sand pack;

 $r_c$  = radius of the casing;

r<sub>w</sub> = radius distance to the undisturbed portion of the aquifer from the centerline of the well.

By solving Equation (2) for Q, and using it in Equation (1), it is possible to integrate, and solve for hydraulic conductivity, K, in Equation (4).

$$K = r_c^2 \ln \frac{(R_c/r_w)}{2L} \frac{1}{t} \ln \frac{y_o}{y_t}, \text{ where}$$
 (4)

K = Hy aulic conductivity;

 $r_c$  = radius of casing;

R<sub>e</sub> = effective radial distance over which y is dissipated;

r<sub>w</sub> = radial distance to the undisturbed portion of the aquifer from the centerline of the well;

 $y_o = y$  at time zero; and

 $y_t = y$  at time t.

This equation was used to calculate hydraulic conductivity of the fine-grained sandstone/siltstone bedrock.

Values of  $R_e$ , effective radius, for various system geometries are expressed in terms of the dimensionless ratio  $\ln(R_e/r_w)$  and were determined empirically with an electrical resistance network analog for different values of  $r_w$ , L, length of water column in the well,  $\dot{H}$ , and hydrologic unit thickness, b, (Bouwer and Rice, 1976). The data are used in one of two equations: Equation (5) is used when H is less than b, and Equation (6) when H is equal to b. These equations are:

$$\ln \frac{R_e}{r_w} = \left[ \frac{1.1}{\ln(H/r_w)} + \frac{A + B \ln[(b - H)/r_w]}{L/r_w} \right]^{-1}, \text{ and}$$
 (5)

$$\ln \frac{R_c}{r_w} = \left[ \frac{1.1}{\ln (H/r_w)} + \frac{C}{L/r_w} \right]^{-1}, where$$
 (6)

A,B,and C = dimensionless values as a function of  $L/r_w$ ;

R<sub>e</sub> = Effective radial distance over which y is dissipated;

r<sub>w</sub> = Radial distance to the undisturbed portion of the aquifer from the center line of the well;

H = length of water column in the well;

b = hydrologic unit thickness; and

L = length of screened interval.

Because y and t are the only variables in Equation (4), a plot of  $\ln y_t$  versus t semilograrithmic paper may be used to determine  $[\ln(y_o/y_t)]/t$ . The straight line through the data points can also be used to select two values of y, namely  $y_o$  and  $y_t$ , along the time interval t for substitution into Equation (4). Because drawdown of the ground-water table around the well increases exponentially and time increases linearly as the test progresses, the points begin to deviate from the straight line for large t and small y. Thus, only the linear portion of the curve should be used to evaluate  $[\ln(y_o/y_t)]/t$  for the calculation of K using Equation (4) (Bouwer, 1989).

#### X.4 SLUG TEST RESULTS

The slug test data for the falling-head (injection of the slug) and the rising-head (withdrawal of the slug) tests are presented in this section. Only the data from the rising-head tests were analyzed by the Bouwer and Rice method to calculate the hydraulic conductivity because the monitor wells were screened in unconfined conditions. The falling-head test performed on an unconfined aquifer produces erroneous results due to the drainage of water into the unsaturated zone above the water table. Thus, the falling-head tests are invalid in monitor wells screened in unconfined conditions. The graphs illustrating the plotted displacement values versus time for the rising-head tests are presented in this section. The well construction data used for the

slug test analysis are presented in Table X.1. The computed hydraulic conductivity values for the monitor wells at IRP Site No. 6, No. 7, and No. 8 are presented in Table X.2.

The saturated thickness of the hydrologic unit was assumed to be equal to the saturated thickness of the screened interval (as well as the height of the water in the monitor well); although, the observed saturated thickness of the hydrologic unit observed during drilling (air rotary) was approximately four to five feet. The depth to water encountered during drilling was approximately equal to the depth to the static water table. Ground water encountered during drilling the boreholes for the monitor wells may possibly be migrating through small fractures and/or intergranular spaces within the fine-grained sandstone/siltstone unit. The hydraulic conductivity (K) ratio (vertical K/horizonal K) was assumed to be equal to 0.1.

The average hydraulic conductivity values at IRP Site No. 6, No. 7, and No. 8 are 2.38 X 10<sup>-2</sup> feet per minute (ft/min) (256 gallons per day per square feet (gpd/ft<sup>2</sup>)), 2.44 X 10<sup>-2</sup> ft/min (264 gpd/ft<sup>2</sup>), and 9.86 X 10<sup>-3</sup> ft/min (107 gpd/ft<sup>2</sup>), respectively.

Table X.2
Slug Test Results, IRP Sites No. 6, No. 7, and No. 8
120th Fighter Wing, Montana ANGB, Great Falls, Montana

	Hydraulic Conductivity	Hydraulic Conductivity	
Monitor Well	(ft/min)	(gpd/ft²)	
	IRP Site No. 6		
6-MW2	2.89 x 10 <sup>-2</sup>	311	
6-MW3	1.87 x 10°2	201	
	IRP Site No. 7		
7-MW2	4.27 x 10 <sup>-2</sup>	460	
7-MW3	1.03 x 10 <sup>-2</sup>	111	
7-MW5	2.04 x 10 <sup>-2</sup>	220	
	IRP Site No. 8		
8-MW2	1.01 x 10 <sup>-2</sup>	109	
8-MW4	9.62 x 10 <sup>-3</sup>	104	

ft/min - feet per minute

gpd/ft2 - gallons per day per square feet

#### X.4 REFERENCES

Bouwer, H. and Rice, R.C., 1976. A Slug Test for Determining Hydraulic Conductivity of Unconfines Aquifers with Completely or Partially Pentrating Wells. American Geophysical Union Water Resources Research, Vol. 12, No. 3, p. 423-428.

Bouwer, H., 1989. The Bouwer and Rice Slug Test - An Update. Ground Water, Vol. 27, No. 3, p. 304-309.

Geraghty & Miller, Inc., 1991. AQTESOLV software package, Version 1.1, Geraghty & Miller, Inc., Reston, VA.

company: Operational Technologies Corp. CLIENT: HAZWRAP рвојест: 8056-101 LOCATION: Montana ANGB Rising Head Test for 6-MW2 DATA SET: 6MW2R.DAT 06/21/96 AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice TEST DATA: H0= 1.16 ft Displacement (ft) r<sub>c</sub>= 0.0833 ft r<sub>w</sub>= 0.25 ft L = 20. ft b = 20. ft1. H = 5.81 ftPARAMETER ESTIMATES:  $K = 0.008531 \, \text{ft/min}$ y0 = 1.002 ft0.1 0.5 Time (min) AQTESOLV CLIENT: HAZWRAP сомраму: Operational Technologies Corp. LOCATION: Montana ANGB **РВОЈЕСТ: 8056-101** Rising Head Test for 6-MW2 DATA SET: 6MW2R.DAT 06/21/96 AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice TEST DATA: Displacement (ft) H0= 1.16 ft  $r_{c} = 0.0833 \text{ ft}$ r<sub>ω</sub>= 0.25 ft L = 20. ft b = 20. ftH = 5.81 ftPARAMETER ESTIMATES: K = 0.008399 ft/miny0 = 1.016 ft0.5 1.5 Time (min)

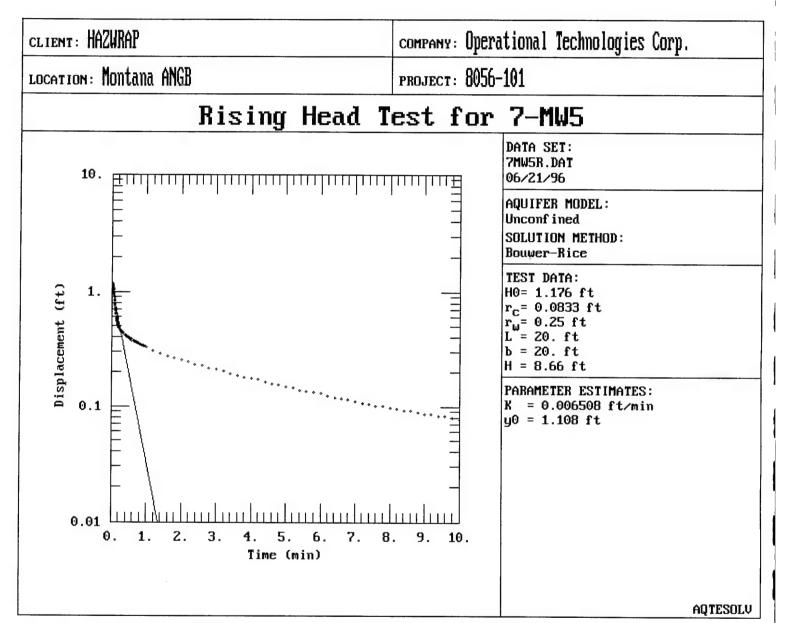
AQTESOLV

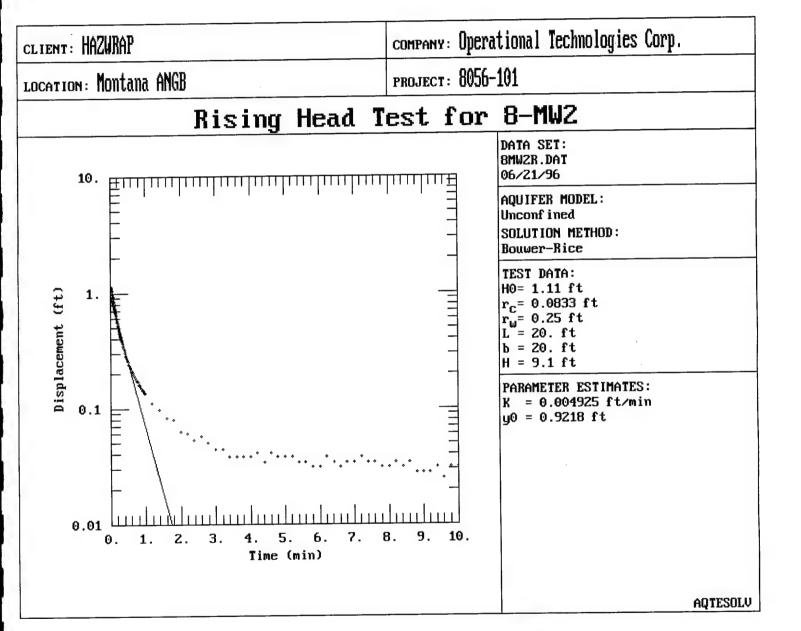
company: Operational Technologies Corp. CLIENT: HAZURAP **РВОЈЕСТ: 8056-101** LOCATION: Montana ANGB Rising Head Test for 6-MW3 DATA SET: 6MW3R.DAT 06/21/96 AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice TEST DATA: H0= 0.922 ft Displacement (ft) r<sub>c</sub>= 0.0833 ft r<sub>w</sub>= 0.25 ft L = 20. ft b = 20. ft1. H = 7.82 ftPARAMETER ESTIMATES: K = 0.007131 ft/miny0 = 1.093 ft0.1 2. 0.5 1.5 Time (min) **AQTESOLV**  CLIENT: HAZWRAP company: Operational Technologies Corp. LOCATION: Montana ANGB **РВОЈЕСТ: 8056-101** Rising Head Test for 7-MW2 DATA SET: 7MW2R.DAT 06/21/96 AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice TEST DATA: Displacement (ft) H0= 1.87 ft  $r_c = 0.0833 \text{ ft}$  $r_{W} = 0.25 \text{ ft}$ L = 20. ft b = 20. ftH = 7.68 ftPARAMETER ESTIMATES: 0.1 K = 0.01576 ft/miny0 = 1.311 ft0.01 0.5 1.5 Time (min)

AQTESOLV

COMPANY: Operational Technologies Corp. CLIENT: HAZWRAP **РВОЈЕСТ: 8056-101** LOCATION: Montana ANGB Rising Head Test for 7-MW3 DATA SET: 7MW3R.DAT 06/21/96 AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice TEST DATA: H0= 1.924 ft Displacement (ft) r<sub>c</sub>= 0.0833 ft r<sub>w</sub>= 0.25 ft L = 20. ft b = 20. ft0.1 H = 14.88 ftPARAMETER ESTIMATES: K = 0.007493 ft/miny0 = 2.158 ft0.01 0.001 2.25 3. 1.5 0.75 Time (min)

AQTESOLV





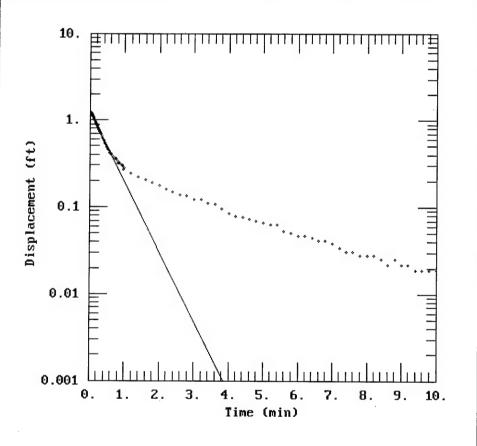
CLIENT: HAZURAP

COMPANY: Operational Technologies Corp.

LOCATION: MONTANA ANGB

PROJECT: 8056-101

# Rising Head Test for 8-MW4



DATA SET: 8MW4R.DAT 06/21/96

AQUIFER MODEL: Unconfined SOLUTION METHOD: Bouwer-Rice

TEST DATA: H0 = 1.214 ft  $r_{c} = 0.0833 \text{ ft}$   $r_{w} = 0.25 \text{ ft}$  L = 20. ft b = 20. ftH = 6.72 ft

PARAMETER ESTIMATES: K = 0.003247 ft/min y0 = 1.212 ft

AQTESOLV

#### Rising Head Test for Monitor Well 6-MW2

		0.0866	0.637	0.2566	0.462
		0.0900	0.624	0.2600	0.462
		0.0933	0.618	0.2633	0.462
SE10000		0.0966	0.602	0.2666	0.456
Environment		0.1000	0.596	0.2700	0.459
05/17 17:1		0.1033	0.586	0.2733	0.466
	-	0.1066	0.583	0.2766	0.459
Unit# 00831	Test 11	0.1100	0.583	0.2800	0.459
Omin occor	, 66	0.1133	0.573	0.2833	0.459
Setups: IN	IPUT 1	0.1166	0.564	0.2866	0.453
Octups. 11		0.1200	0.561	0.2900	0.456
Type Le	vel (F)	0.1233	0.551	0.2933	0.459
• •	OC	0.1266	0.542	0.2966	0.453
I.D.	6022	0.1300	0.538	0.3000	0.456
1.0.	OULL	0.1333	0.538	0.3033	0.453
Reference	0.000	0.1366	0.532	0.3066	0.450
	0.030	0.1400	0.532	0.3100	0.459
Scale factor	10.030	0.1433	0.516	0.3133	0.447
	0.040	0.1466	0.513	0.3166	0.450
Delay mSEC	50.000	0.1500	0.519	0.3200	0.456
Delay MoLC	30.000	0.1533	0.510	0.3233	0.453
Step 0 05/17	13.20.15	0.1566	0.513	0.3266	0.450
Step 0 03/17	13.20.13	0.1600	0.500	0.3300	0.447
Elapsed Time	INDIT 1	0.1633	0.497	0.3333	0.447
Elapseu Tillie		0.1666	0.507	0.3500	0.447
0.0000	0.317	0.1700	0.488	0.3666	0.443
0.0000 0.0033	1.306	0.1733	0.500	0.3833	0.440
	0.957	0.1766	0.488	0.4000	0.447
0.0000	1.163	0.1700	0.488	0.4166	0.440
	1.011	0.1833	0.494	0.4333	0.437
0.0133	1.030	0.1866	0.481	0.4500	0.434
0.0166		0.1900	0.488	0.4666	0.431
0.0200	1.001	0.1900	0.478	0.4833	0.431
0.0233	0.944	0.1955	0.488	0.5000	0.440
0.0266	0.963	0.1900	0.478	0.5166	0.431
0.0300	0.894	0.2003	0.485	0.5333	0.428
0.0333	0.919	0.2066	0.478	0.5500	0.428
0.0366	0.846	0.2100	0.475	0.5666	0.431
0.0400	0.862	0.2133	0.478	0.5833	0.431
0.0433	0.824		0.475	0.6000	0.428
0.0466	0.817	0.2166	0.469	0.6166	0.421
0.0500	0.767	0.2200 0.2233	0.475	0.6333	0.431
0.0533	0.779		0.475	0.6500	0.424
0.0566	0.754	0.2266		0.6666	0.415
0.0600	0.741	0.2300	0.469	0.6833	0.418
0.0633	0.716	0.2333	0.475	0.7000	0.415
0.0666	0.703	0.2366	0.466	0.7000	0.413
0.0700	0.691	0.2400	0.466		0.410
0.0733	0.684	0.2433	0.466	0.7333	0.421
0.0766	0.672	0.2466	0.469	0.7500	0.413
0.0800	0.656	0.2500	0.462	0.7666	
0.0833	0.643	0.2533	0.466	0.7833	0.415

0.8000	0.412	9.2000	0.348	59.0000	0.234
0.8166	0.412	9.4000	0.348	60.0000	0.234
0.8333	0.415	9.6000	0.348	61.0000	0.234
0.8500	0.412	9.8000	0.345	62.0000	0.231
0.8666	0.415	10.0000	0.345	63.0000	0.225
0.8833	0.412	11.0000	0.342		
0.9000	0.412	12.0000	0.345		
0.9166	0.409	13.0000	0.339		
0.9333	0.409	14.0000	0.339		
0.9500	0.409	15.0000	0.332		
0.9666	0.409	16.0000	0.332		
0.9833	0.409	17.0000	0.323		
1.0000	0.409	18.0000	0.323		
1.2000	0.399	19.0000	0.320		
1.4000	0.396	20.0000	0.313		
1.6000	0.393	21.0000	0.310		
1.8000	0.393	22.0000	0.304		
2.0000	0.386	23.0000	0.307		
2.2000					
	0.389	24.0000	0.304		
2.4000	0.386	25.0000	0.301		
2.6000	0.383	26.0000	0.301		
2.8000	0.383	27.0000	0.298		
3.0000	0.383	28.0000	0.291		
3.2000	0.380	29.0000	0.291		
3.4000	0.377	30.0000	0.285		
3.6000	0.380	31.0000	0.285		
3.8000	0.377	32.0000	0.282		
4.0000	0.377	33.0000	0.279		
4.2000	0.374	34.0000	0.279		
4.4000	0.374	35.0000	0.275		
4.6000	0.374	36.0000	0.275		
4.8000	0.370	37.0000	0.269		
5.0000	0.370	38.0000	0.269		
5.2000	0.367	39.0000	0.259		
5.4000	0.367	40.0000	0.266		
5.6000	0.364	41.0000	0.263		
5.8000	0.367	42.0000	0.263		
6.0000	0.361	43.0000	0.259		
6.2000	0.361	44.0000	0.259		
6.4000	0.361	45.0000	0.259		
6.6000	0.364	46.0000	0.253		
6.8000	0.364	47.0000	0.253		
7.0000	0.361	48.0000	0.253		
7.2000	0.358	49.0000	0.250		
7.4000	0.358	50.0000	0.247		
7.6000	0.355	51.0000	0.250		
7.8000	0.355	52.0000	0.244		
8.0000	0.351	53.0000	0.244		
8.2000	0.351	54.0000	0.244		
8.4000	0.351	55.0000	0.244		
8.6000	0.355	56.0000	0.240		
8.8000	0.348	57.0000	0.237		
9.0000	0.345	58.0000	0.237		

# Falling Head Test for Monitor Well 6-MW2

	0.0933	-0.421	0.2633	-0.377
SE1000C	0.0966	-0.402	0.2666	-0.377
Environmental Logger	0.1000	-0.389	0.2700	-0.377
05/17 17:14	0.1033	-0.399	0.2733	-0.377
	0.1066	-0.367	0.2766	-0.377
Unit# 00831 Test 10	0.1100	-0.367	0.2800	-0.377
	0.1133	-0.389	0.2833	-0.377
Setups: INPUT 1	0.1166	-0.393	0.2866	-0.377
	0.1200	-0.380	0.2900	-0.377
Type Level (F)	0.1233	-0.380	0.2933	-0.377
Mode TOC	0.1266	-0.383	0.2966	-0.377
I.D. 6021	0.1300	-0.377	0.3000	-0.374
	0.1333	-0.386	0.3033	-0.377
Reference 0.000	0.1366	-0.380	0.3066	-0.377
Linearity 0.030	0.1400	-0.383	0.3100	-0.377
Scale factor 10.030	0.1433	-0.386	0.3133	-0.377
Offset 0.040	0.1466	-0.380	0.3166	-0.377
Delay mSEC 50.000	0.1500	-0.380	0.3200	-0.377
,	0.1533	-0.380	0.3233	-0.377
Step 0 05/17 11:46:02	0.1566	-0.380	0.3266	-0.374
	0.1600	-0.380	0.3300	-0.377
Elapsed Time INPUT 1	0.1633	-0.380	0.3333	-0.377
	0.1666	-0.380	0.3500	-0.374
0.0000 0.003	0.1700	-0.380	0.3666	-0.374
0.0033 0.000	0.1733	-0.380	0.3833	-0.374
0.0066 0.003	0.1766	-0.380	0.4000	-0.374
0.0100 0.003	0.1800	-0.380	0.4166	-0.374
0.0133 0.000	0.1833	-0.377	0.4333	-0.374
0.0166 0.000	0.1866	-0.380	0.4500	-0.370
0.0200 0.006	0.1900	-0.380	0.4666	-0.370
0.0233 0.000	0.1933	-0.380	0.4833	-0.370
0.0266 -0.047	0.1966	-0.380	0.5000	-0.370
0.0300 -0.351	0.2000	-0.380	0.5166	-0.370
0.0333 -0.348	0.2033	-0.377	0.5333	-0.370
0.0366 -0.380	0.2066	-0.380	0.5500	-0.370
0.0400 -0.554	0.2100	-0.377	0.5666	-0.370
0.0433 -0.545	0.2133	-0.380	0.5833	-0.370
0.0466 -0.805	0.2166	-0.377	0.6000	-0.367
0.0500 -0.447	0.2200	-0.380	0.6166	-0.370
0.0533 -0.301	0.2233	-0.377	0.6333	-0.367
0.0566 -0.386	0.2266	-0.377	0.6500	-0.358
0.0600 -0.339	0.2300	-0.380	0.6666	-0.374
0.0633 -0.361	0.2333	-0.377	0.6833	-0.367
0.0666 -0.447	0.2366	-0.380	0.7000	-0.367
0.0700 -0.440	0.2400	-0.377	0.7166	-0.374
0.0733 -0.481	0.2433	-0.377	0.7333	-0.364
0.0766 -0.415	0.2466	-0.377	0.7500	-0.367
0.0800 -0.409	0.2500	-0.380	0.7666	-0.367
0.0833 -0.336	0.2533	-0.377	0.7833	-0.367
0.0866 -0.307	0.2566	-0.377	0.8000	-0.367
0.0900 -0.377	0.2600	-0.377	0.8166	-0.367

0.8333	-0.367	9.2000	-0.301	57.0000	-0.215
0.8500	-0.367	9.4000	-0.301	58.0000	-0.215
0.8666	-0.367	9.6000	-0.301	59.0000	-0.212
0.8833	-0.367	9.8000	-0.298	60.0000	-0.215
0.9000	-0.367	10.0000	-0.298	61.0000	-0.212
0.9166	-0.364	11.0000	-0.291	62.0000	-0.212
0.9333	-0.364	12.0000	-0.282	63.0000	-0.212
0.9500	-0.364	13.0000	-0.279	64.0000	-0.215
0.9666	-0.364	14.0000	-0.275	65.0000	-0.212
0.9833	-0.364	15.0000	-0.275	66.0000	-0.212
1.0000	-0.364	16.0000	-0.269	67.0000	-0.212
1.2000	-0.361	17.0000	-0.266	68.0000	-0.212
1.4000	-0.358	18.0000	-0.263	69.0000	-0.209
1.6000	-0.355	19.0000	-0.259	70.0000	-0.212
1.8000	-0.355	20.0000	-0.256	71.0000	-0.209
2.0000	-0.351	21.0000	-0.256	72.0000	-0.209
2.2000	-0.348	22.0000	-0.253	73.0000	-0.209
2.4000	-0.348	23.0000	-0.253	74.0000	-0.209
2.6000	-0.345	24.0000	-0.250	75.0000	-0.209
2.8000	-0.342	25.0000	-0.253	76.0000	-0.209
3.0000	-0.342	26.0000	-0.247	77.0000	-0.209
3.2000	-0.342	27.0000	-0.244	78.0000	-0.209
3.4000	-0.339	28.0000	-0.240	79.0000	-0.209
3.6000	-0.336	29.0000	-0.240	80.0000	-0.206
3.8000	-0.336	30.0000	-0.240	81.0000	-0.206
4.0000	-0.332	31.0000	-0.237	82.0000	-0.209
4.2000	-0.332	32.0000	-0.237	83.0000	-0.209
4.4000	-0.329	33.0000	-0.237	84.0000	-0.209
4.6000	-0.326	34.0000	-0.237	85.0000	-0.209
4.8000	-0.326	35.0000	-0.234	86.0000	-0.212
5.0000	-0.326	36.0000	-0.234	87.0000	-0.209
5.2000	-0.323	37.0000	-0.231	88.0000	-0.212
5.4000	-0.323	38.0000	-0.231	89.0000	-0.209
5.6000	-0.320	39.0000	-0.228	90.0000	-0.212
5.8000	-0.320	40.0000	-0.228	91.0000	-0.215
6.0000	-0.320	41.0000	-0.225	31.0000	0.210
6.2000	-0.317	42.0000	-0.225		
6.4000	-0.317	43.0000	-0.225		
6.6000	-0.313	44.0000	-0.225		
6.8000	-0.313	45.0000	-0.221		
7.0000	-0.313	46.0000	-0.221		
7.2000	-0.310	47.0000	-0.218		
7.4000	-0.310	48.0000	-0.225		
7.6000	-0.307	49.0000	-0.225		
7.8000	-0.307	50.0000	-0.218		
8.0000	-0.307	51.0000	-0.218		
8.2000	-0.307	52.0000	-0.215		
8.4000	-0.304	53.0000	-0.215		
8.6000	-0.304	54.0000	-0.218		
8.8000	-0.304	55.0000	-0.215		
9.0000	-0.304	56.0000	-0.218		
	0.50	00.0000	0.210		

## Falling Head Test for Monitor Well 6-MW3

	0.0866	-0.396	0.2566	-0.358
	0.0900	-0.228	0.2600	-0.358
	0.0933	-0.187	0.2633	-0.358
SE1000C	0.0966	-0.421	0.2666	-0.358
Environmental Logger	0.1000	-0.612	0.2700	-0.358
05/17 16:54	0.1033	-0.475	0.2733	-0.358
00/// 10.01	0.1066	-0.314	0.2766	-0.358
Unit# 00831 Test 4	0.1100	-0.279	0.2800	-0.358
Officer Good 1 Took 1	0.1133	-0.164	0.2833	-0.358
Setups: INPUT 1	0.1166	-0.301	0.2866	-0.358
	0.1200	-0.516	0.2900	-0.358
Type Level (F)	0.1233	-0.475	0.2933	-0.358
Mode TOC	0.1266	-0.361	0.2966	-0.358
I.D. 06031	0.1300	-0.314	0.3000	-0.358
1.5.	0.1333	-0.288	0.3033	-0.361
Reference 0.000	0.1366	-0.345	0.3066	-0.358
Linearity 0.030	0.1400	-0.421	0.3100	-0.358
Scale factor 10.030	0.1433	-0.405	0.3133	-0.358
Offset 0.040	0.1466	-0.364	0.3166	-0.358
	0.1500	-0.333	0.3200	-0.358
Delay mSEC 50.000	0.1533	-0.336	0.3233	-0.358
Cton 0. 05/16 16:18:26	0.1566	-0.364	0.3266	-0.358
Step 0 05/16 16:18:26	0.1600	-0.386	0.3300	-0.358
Elapsed Time INPUT 1	0.1633	-0.374	0.3333	-0.358
Elapsed Time INPOT	0.1666	-0.358	0.3500	-0.358
0.0000 0.100	0.1700	-0.348	0.3666	-0.358
0.0000 -0.199	0.1733	-0.355	0.3833	-0.358
0.0033 -0.171	0.1766	-0.367	0.4000	-0.358
0.0066 -0.177	. 0.1800	-0.367	0.4166	-0.358
0.0100 -0.390	0.1833	-0.364	0.4333	-0.358
0.0133 -0.678	0.1866	-0.358	0.4500	-0.358
0.0166 -0.951	0.1900	-0.358	0.4666	-0.358
0.0200 -0.516	0.1933	-0.358	0.4833	-0.358
0.0233 -0.459	0.1966	-0.364	0.5000	-0.358
0.0266 -0.669	0.2000	-0.361	0.5166	-0.358
0.0300 -0.780	0.2033	-0.358	0.5333	-0.358
0.0333 -0.726 0.0366 -0.815	0.2066	-0.358	0.5500	-0.358
	0.2100	-0.358	0.5666	-0.358
•	0.2133	-0.361	0.5833	-0.358
0.0433 -0.634	0.2166	-0.361	0.6000	-0.358
0.0466 -0.355	0.2200	-0.358	0.6166	-0.358
0.0500 -0.402	0.2233	-0.358	0.6333	-0.358
0.0533 -0.241	0.2266	-0.358	0.6500	-0.358
0.0566 -0.504	0.2300	-0.361	0.6666	-0.358
0.0600 -0.770	0.2333	-0.358	0.6833	-0.358
0.0633 -0.333		-0.361	0.7000	-0.358
0.0666 -0.250	0.2366	-0.358	0.7166	-0.358
0.0700 -0.516	0.2400	-0.356 -0.358	0.7333	-0.358
0.0733 -0.377	0.2433	-0.358 -0.358	0.7500	-0.358
0.0766 -0.307	0.2466	-0.356 -0.361	0.7666	-0.355
0.0800 -0.453	0.2500		0.7833	-0.355
0.0833 -0.494	0.2533	-0.358	0.7000	0.000

0.8000	-0.355	9.2000	-0.336
0.8166	-0.355	9.4000	-0.336
0.8333	-0.355	9.6000	-0.336
0.8500	-0.358	9.8000	-0.336
0.8666	-0.355	10.0000	-0.336
0.8833	-0.345	11.0000	-0.336
0.9000	-0.466	12.0000	-0.329
0.9166	-0.380	13.0000	-0.329
0.9333	-0.380	14.0000	-0.329
0.9500	-0.364	15.0000	-0.329
0.9666	-0.358	16.0000	-0.326
0.9833	-0.355	17.0000	-0.326
1.0000	-0.364	18.0000	-0.326
1.2000	-0.355	19.0000	-0.326
1.4000	-0.352	20.0000	-0.326
1.6000	-0.352	21.0000	-0.326
1.8000	-0.352	22.0000	-0.329
2.0000	-0.352	23.0000	-0.323
2.2000	-0.348	24.0000	-0.323
2.4000	-0.348	25.0000	-0.323
2.6000	-0.348	26.0000	-0.323
2.8000	-0.345	27.0000	-0.323
3.0000	-0.348	28.0000	-0.323
3.2000	-0.345	29.0000	-0.323
3.4000	-0.345	30.0000	-0.323
3.6000	-0.345	31.0000	-0.323
3.8000	-0.345	32.0000	-0.323
4.0000	-0.345	33.0000	-0.320
4.2000	-0.342	34.0000	-0.323
4.4000	-0.342	35.0000	-0.323
4.6000	-0.342	36.0000	-0.320
4.8000	-0.342	37.0000	-0.320
5.0000 5.2000	-0.342 -0.342	38.0000	-0.323
5.4000	-0.342 -0.342	39.0000 40.0000	-0.320
5.6000	-0.342	41.0000	-0.320
5.8000	-0.339	42.0000	-0.320 -0.320
6.0000	-0.339	43.0000	-0.320
6.2000	-0.339	44.0000	-0.320
6.4000	-0.339	45.0000	-0.323
6.6000	-0.339	43.0000 .	-0.323
6.8000	-0.339		
7.0000	-0.339		
7.2000	-0.339		
7.4000	-0.336		
7.6000	-0.339		
7.8000	-0.339		
8.0000	-0.336		
8.2000	-0.336		
8.4000	-0.336		
8.6000	-0.336		
8.8000	-0.336		
9.0000	-0.336		

#### Rising Head Test for Monitor Well 6-MW3

			0.0400	0.405
	0.0833	0.840	0.2433	0.485
SE1000C	0.0866	0.761	0.2466	0.482
Environmental Logger	0.0900	0.802	0.2500	0.472
05/17 16:58	0.0933	0.827	0.2533	0.475
	0.0966	0.773	0.2566	0.472
Unit# 00831 Test 5	0.1000	0.729	0.2600	0.478
	0.1033	0.745	0.2633	0.469
Setups: INPUT 1	0.1066	0.764	0.2666	0.459
	0.1100	0.719	0.2700	0.463
Type Level (F)	0.1133	0.688	0.2733	0.469
Mode TOC	0.1166	0.710	0.2766	0.475
I.D. 06032	0.1200	0.707	0.2800	0.456
	0.1233	0.669	0.2833	0.456
Reference 0.000	0.1266	0.653	0.2866	0.463
Linearity 0.030	0.1300	0.665	0.2900	0.463
Scale factor 10.030	0.1333	0.659	0.2933	0.456
Offset 0.040	0.1366	0.627	0.2966	0.450
Delay mSEC 50.000	0.1400	0.621	0.3000	0.453
<b>-</b>	0.1433	0.627	0.3033	0.459
Step 0 05/16 17:05:21	0.1466	0.631	0.3066	0.456
5.5p 6 667 16 1112512 1	0.1500	0.602	0.3100	0.453
Elapsed Time INPUT 1	0.1533	0.586	0.3133	0.447
Liapsod Tillo IIII o I	0.1566	0.593	0.3166	0.447
0.0000 0.294	0.1600	0.593	0.3200	0.450
0.0033 0.025	0.1633	0.577	0.3233	0.450
0.0066 -0.082	0.1666	0.555	0.3266	0.440
0.0100 0.345	0.1700	0.567	0.3300	0.443
0.0133 0.919	0.1733	0.567	0.3333	0.447
0.0166 1.109	0.1766	0.545	0.3500	0.440
0.0200 0.691	0.1800	0.535	0.3666	0.443
0.0233 0.107	0.1833	0.548	0.3833	0.428
0.0266 1.087	0.1866	0.542	0.4000	0.424
0.0300 1.724	0.1900	0.526	0.4166	0.428
0.0333 1.059	0.1933	0.523	0.4333	0.428
0.0366 0.665	0.1966	0.526	0.4500	0.415
	0.2000	0.523	0.4666	0.421
	0.2033	0.513	0.4833	0.418
	0.2066	0.510	0.5000	0.415
	0.2000	0.510	0.5166	0.409
0.0500 0.830	0.2100	0.510	0.5333	0.409
0.0533 1.170		0.501	0.5500	0.405
0.0566 1.068	0.2166		0.5666	0.405
0.0600 0.795	0.2200	0.494	0.5833	0.402
0.0633 0.881	0.2233	0.494		
0.0666 1.033	0.2266	0.494	0.6000 0.6166	0.402 0.399
0.0700 0.916	0.2300	0.491		
0.0733 0.783	0.2333	0.485	0.6333	0.399
0.0766 0.843	0.2366	0.482	0.6500	0.396
0.0800 0.922	0.2400	0.485	0.6666	0.396

0.6833	0.396	7.4000	0.310	48.0000
0.7000	0.396	7.6000	0.307	49.0000
0.7166	0.393	7.8000	0.307	50.0000
0.7333	0.393	8.0000	0.307	51.0000
0.7500	0.390	8.2000	0.307	52.0000
0.7666	0.390	8.4000	0.304	53.0000
0.7833	0.390	8.6000	0.304	54.0000
0.8000	0.386	8.8000	0.301	55.0000
0.8166	0.386	9.0000	0.301	56.0000
0.8333	0.386	9.2000	0.298	57.0000
0.8500	0.386	9.4000	0.298	
0.8666	0.383	9.6000	0.294	
0.8833	0.383	9.8000	0.294	
0.9000	0.383	10.0000	0.294	
0.9166	0.383	11.0000	0.291	
0.9333	0.380	12.0000	0.288	
0.9500	0.380	13.0000	0.282	
0.9666	0.380	14.0000	0.279	
0.9833	0.380	15.0000	0.272	
1.0000	0.380	16.0000	0.266	
1.2000	0.371	17.0000	0.266	
1.4000	0.367	18.0000	0.260	
1.6000	0.361	19.0000	0.256	
1.8000	0.355	20.0000	0.253	
2.0000	0.351	21.0000	0.247	
2.2000	0.348	22.0000	0.244	
2.4000	0.348	23.0000	0.241	
2.6000	0.345	24.0000	0.237	
2.8000	0.342	25.0000	0.234	
3.0000	0.342	26.0000	0.228	
3.2000	0.339	27.0000	0.225	
3.4000	0.339	28.0000	0.218	
3.6000 3.8000	0.336	29.0000	0.218	
4.0000	0.336 0.332	30.0000	0.218	
4.2000	0.332	31.0000 32.0000	0.215	
4.4000	0.329	32.0000	0.212 0.209	
4.6000	0.329	34.0000		
4.8000	0.326	35.0000	0.202 0.202	
5.0000	0.326	36.0000	0.202	
5.2000	0.323	37.0000	0.202	
5.4000	0.323	38.0000	0.199	
5.6000	0.320	39.0000	0.190	
5.8000	0.320	40.0000	0.193	
6.0000	0.320	41.0000	0.193	
6.2000	0.320	42.0000	0.190	
6.4000	0.317	43.0000	0.187	
6.6000	0.317	44.0000	0.183	
6.8000	0.313	45.0000	0.183	
7.0000	0.310	46.0000	0.180	
7.2000	0.310	47.0000	0.177	
	0.0.0	. 7 . 0 0 0 0	0	

0.177 0.174 0.174 0.171 0.168 0.168 0.168 0.164 0.158

#### Falling Head Test for Monitor Well 7-MW2

	0.0833	-0.282	0.2466	-0.218
	0.0866	-0.285	0.2500	-0.218
SE1000C	0.0900	-0.253	0.2533	-0.218
Environmental Logger	0.0933	-0.291	0.2566	-0.218
05/17 16:27	0.0966	-0.269	0.2600	-0.215
	0.1000	-0.294	0.2633	-0.215
Unit# 00831 Test 0	0.1033	-0.247	0.2666	-0.215
	0.1066	-0.282	0.2700	-0.215
Setups: INPUT 1	0.1100	-0.225	0.2733	-0.212
	0.1133	-0.307	0.2766	-0.212
Type Level (F)	0.1166	-0.221	0.2800	-0.212
Mode TOC	0.1200	-0.269	0.2833	-0.212
I.D. 7021	0.1233	-0.253	0.2866	-0.209
	0.1266	-0.272	0.2900	-0.209
Reference 0.000	0.1300	-0.272	0.2933	-0.209
Linearity 0.030	0.1333	-0.275	0.2966	-0.209
Scale factor 10.030	0.1366	-0.282	0.3000	-0.206
Offset 0.040	0.1400	-0.310	0.3033	-0.206
Delay mSEC 50.000	0.1433	-0.218	0.3066	-0.206
Boldy Moze Co.coc	0.1466	-0.193	0.3100	-0.206
Step 0 05/16 12:32:46	0.1500	-0.199	0.3133	-0.202
Grep & 65/15 12.52.15	0.1533	-0.320	0.3166	-0.206
Elapsed Time INPUT 1	0.1566	-0.247	0.3200	-0.202
Liapsed Fillie 1141 OT 1	0.1600	-0.237	0.3233	-0.202
0.0000 -0.431	0.1633	-0.244	0.3266	-0.202
0.0033 -0.326	0.1666	-0.244	0.3300	-0.202
0.0066 -0.183	0.1700	-0.244	0.3333	-0.199
0.0100 -0.339	0.1733	-0.241	0.3500	-0.196
0.0133 -0.551	0.1766	-0.241	0.3666	-0.193
0.0166 -0.478	0.1800	-0.241	0.3833	-0.190
0.0200 -0.593	0.1833	-0.241	0.4000	-0.187
0.0233 -0.678	0.1866	-0.237	0.4166	-0.183
0.0266 -0.329	0.1900	-0.237	0.4333	-0.180
0.0300 -0.193	0.1933	-0.234	0.4500	-0.177
0.0333 -0.488	0.1966	-0.234	0.4666	-0.174
0.0366 -0.564	0.2000	-0.234	0.4833	-0.174
0.0400 -0.367	0.2033	-0.231	0.5000	-0.171
0.0400 -0.367	0.2066	-0.231	0.5166	-0.168
	0.2100	-0.228	0.5333	-0.168
0.0466 -0.082	0.2133	-0.228	0.5500	-0.164
0.0500 -0.383	0.2166	-0.228	0.5666	-0.161
0.0533 -0.383	0.2200	-0.228	0.5833	-0.161
0.0566 -0.228	0.2233	-0.225	0.6000	-0.158
0.0600 -0.263		-0.225	0.6166	-0.155
0.0633 -0.294	0.2266	-0.225 -0.225	0.6333	-0.152
0.0666 -0.294	0.2300		0.6500	-0.132
0.0700 -0.323	0.2333	-0.225 -0.221	0.6666	-0.145
0.0733 -0.279	0.2366		0.6833	-0.152
0.0766 -0.294	0.2400	-0.221	0.7000	-0.132
0.0800 -0.288	0.2433	-0.221	0.7000	-0.149

0.7166	-0.145	7.8000	-0.009
0.7333	-0.142	8.0000	-0.009
0.7500	-0.142	8.2000	-0.009
0.7666	-0.139	8.4000	-0.009
0.7833	-0.139	8.6000	-0.009
0.8000	-0.136	8.8000	-0.009
0.8166	-0.136	9.0000	-0.009
0.8333	-0.136	9.2000	-0.006
0.8500	-0.133	9.4000	-0.006
0.8666	-0.130	9.6000	-0.006
0.8833	-0.130	9.8000	-0.006
0.9000	-0.126	10.0000	-0.006
0.9166	-0.126	11.0000	-0.006
0.9333	-0.123	12.0000	-0.003
0.9500	-0.123	13.0000	0.003
0.9666	-0.123	14.0000	-0.003
0.9833	-0.120	15.0000	0.003
1.0000	-0.120	16.0000	0.006
1.2000	-0.101	17.0000	0.000
1.4000	-0.091	18.0000	0.006
1.6000	-0.079	19.0000	0.006
1.8000	-0.072	20.0000	0.000
2.0000	-0.069	21.0000	0.006
2.2000	-0.060		
2.4000	-0.057		
2.6000	-0.050		
2.8000	-0.050		
3.0000	-0.044		
3.2000	-0.041		
3.4000	-0.038		
3.6000	-0.034		
3.8000	-0.034		
4.0000	-0.031		
4.2000	-0.028		
4.4000	-0.028		
4.6000	-0.025		
4.8000	-0.025		
5.0000	-0.022		
5.2000	-0.022		
5.4000	-0.022		
5.6000	-0.019		
5.8000	-0.019		
6.0000	-0.015		
6.2000	-0.015		
6.4000	-0.015		
6.6000	-0.015		
6.8000	-0.012		
7.0000	-0.012		
7.2000	-0.012		
7.4000	-0.012		
7.6000	-0.009		

#### Rising Head Test for Monitor Well 7-MW2

				1
	0.0833	0.653	0.2466	0.294
	0.0866	0.631	0.2500	0.298
SE1000C	0.0900	0.596	0.2533	0.294
Environmental Logger	0.0933	0.564	0.2566	0.294
05/17 16:31	0.0966	0.545	0.2600	0.298
	0.1000	0.545	0.2633	0.291
Unit# 00831 Test 1	0.1033	0.516	0.2666	0.291
	0.1066	0.501	0.2700	0.291
Setups: INPUT 1	0.1100	0.494	0.2733	0.288
	0.1133	0.469	0.2766	0.291
Type Level (F)	0.1166	0.443	0.2800	0.285
Mode TOC	0.1200	0.437	0.2833	0.291
I.D. 07022	0.1233	0.428	0.2866	0.285
1.5. 07022	0.1266	0.415	0.2900	0.285
Reference 0.000	0.1300	0.405	0.2933	0.282
Linearity 0.030	0.1333	0.409	0.2966	0.285
Scale factor 10.030	0.1366	0.396	0.3000	0.279
Offset 0.040	0.1400	0.386	0.3033	0.285
	0.1433	0.377	0.3066	0.282
Delay mSEC 50.000	0.1466	0.371	0.3100	0.282
Stop 0 05/16 12:57:16	0.1500	0.367	0.3133	0.275
Step 0 05/16 12:57:16	0.1533	0.358	0.3166	0.279
Florest Time INDLIT 4	0.1566	0.361	0.3200	0.275
Elapsed Time INPUT 1	0.1600	0.355	0.3233	0.279
0.0000 0.044	0.1633	0.358	0.3266	0.275
0.0000 0.241	0.1666	0.326	0.3300	0.279
0.0033 0.390	0.1700	0.342	0.3333	0.282
0.0066 0.735	0.1700	0.329	0.3500	0.275
0.0100 -0.577		0.329	0.3666	0.263
0.0133 0.120	0.1766	0.329	0.3833	0.253
0.0166 0.593	0.1800	0.332	0.4000	0.233
0.0200 1.499	0.1833		0.4166	0.244
0.0233 -0.624	0.1866	0.336	0.4333	0.237
0.0266 0.260	0.1900	0.310	0.4500	0.241
0.0300 0.459	0.1933	0.313		0.250
0.0333 1.074	0.1966	0.313	0.4666	0.250
0.0366 1.870	0.2000	0.313	0.4833	
0.0400 1.223	0.2033	0.313	0.5000	0.231
0.0433 0.913	0.2066	0.310	0.5166	0.218
0.0466 0.976	0.2100	0.313	0.5333	0.215
0.0500 0.979	0.2133	0.307	0.5500	0.212
0.0533 0.954	0.2166	0.307	0.5666	0.215
0.0566 0.887	0.2200	0.307	0.5833	0.206
0.0600 0.862	0.2233	0.304	0.6000	0.206
0.0633 0.821	0.2266	0.307	0.6166	0.206
0.0666 0.795	0.2300	0.301	0.6333	0.212
0.0700 0.761	0.2333	0.304	0.6500	0.231
0.0733 0.732	0.2366	0.301	0.6666	0.228
0.0766 0.703	0.2400	0.298	0.6833	0.212
0.0800 0.678	0.2433	0.301	0.7000	0.206

0.7166 0.7333 0.7500 0.7666 0.7833 0.8000 0.8166 0.8333 0.8500 0.8666 0.8833 0.9000 0.9166 0.9333 0.9500 0.9666 0.9833 1.0000 1.4000 1.6000 1.8000 2.0000 2.2000 2.4000 2.2000 2.4000 2.6000 2.8000 3.0000 3.0000 3.0000 3.0000 3.0000 3.0000 5.0000 5.0000 5.0000 5.0000 5.0000 6.0000 6.0000 6.0000 6.0000 6.0000	0.196 0.193 0.193 0.193 0.193 0.193 0.193 0.177 0.177 0.177 0.174 0.171 0.168 0.168 0.168 0.168 0.168 0.158 0.158 0.158 0.158 0.158 0.158 0.101 0.095 0.088 0.082 0.076 0.072 0.069 0.066 0.063 0.060 0.060 0.057 0.057 0.053 0.050 0.057 0.053 0.050 0.047 0.047 0.044 0.044 0.044 0.044 0.044 0.044 0.044	7.8000 8.0000 8.2000 8.4000 8.6000 9.0000 9.2000 9.4000 9.6000 10.0000 11.0000 12.0000 14.0000 15.0000 16.0000 17.0000 18.0000 20.0000 21.0000 22.0000
6.8000 7.0000 7.2000	0.041 0.041 0.041	
7.4000 7.6000	0.041 0.038	

0.038 0.038 0.038 0.038 0.038 0.038 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.038 0.031 0.034 0.034 0.034 0.028 0.031 0.031 0.031 0.031 0.025

#### Falling Head Test for Monitor Well 7-MW3

	0.0000	0.540	0.2466	0.522
	0.0833	-0.543	0.2466 0.2500	-0.533 -0.533
0510000	0.0866	-0.629	0.2533	
SE1000C	0.0900	-0.645		-0.533
Environmental Logger	0.0933	-0.606	0.2566 0.2600	-0.533 -0.530
05/17 17:22	0.0966	-0.527	0.2633	-0.530
11-14 00004 T 40	0.1000	-0.499	0.2666	
Unit# 00831 Test 12	0.1033	-0.530	0.2700	-0.527
October INDUT 4	0.1066	-0.613		-0.527
Setups: INPUT 1	0.1100	-0.626	0.2733	-0.527
T	0.1133	-0.584	0.2766	-0.527
Type Level (F)	0.1166	-0.537	0.2800	-0.524 -0.524
Mode TOC	0.1200	-0.530	0.2833	
I.D. 07031	0.1233	-0.559	0.2866	-0.524
	0.1266	-0.568	0.2900	-0.524
Reference 0.000	0.1300	-0.562	0.2933	-0.524
Linearity 0.030	0.1333	-0.556	0.2966	-0.521
Scale factor 10.030	0.1366	-0.559	0.3000	-0.521
Offset 0.040	0.1400	-0.559	0.3033	-0.521
Delay mSEC 50.000	0.1433	-0.552	0.3066	-0.518
	0.1466	-0.556	0.3100	-0.518
Step 0 05/17 15:16:03	0.1500	-0.552	0.3133	-0.518
	0.1533	-0.556	0.3166	-0.518
Elapsed Time INPUT 1	0.1566	-0.556	0.3200	-0.514
	0.1600	-0.552	0.3233	-0.511
0.0000 -0.216	0.1633	-0.552	0.3266	-0.514
0.0033 -0.711	0.1666	-0.552	0.3300	-0.511
0.0066 -1.096	0.1700	-0.549	0.3333	-0.511
0.0100 -1.531	0.1733	-0.549	0.3500	-0.505
0.0133 -1.175	0.1766	-0.552	0.3666	-0.502
0.0166 -0.966	0.1800	-0.546	0.3833	-0.492
0.0200 -0.645	0.1833	-0.549	0.4000	-0.486
0.0233 -1.077	0.1866	-0.549	0.4166	-0.476
0.0266 -0.940	0.1900	-0.546	0.4333	-0.473
0.0300 -0.718	0.1933	-0.546	0.4500	-0.467
0.0333 -0.889	0.1966	-0.546	0.4666	-0.460
0.0366 -0.848	0.2000	-0.546	0.4833	-0.457
0.0400 -0.962	0.2033	-0.543	0.5000	-0.445
0.0433 -0.988	0.2066	-0.543	0.5166	-0.438
0.0466 -1.010	0.2100	-0.543	0.5333	-0.584
0.0500 -0.937	0.2133	-0.543	0.5500	-0.473
0.0533 -0.705	0.2166	-0.540	0.5666	-0.400
0.0566 -0.177	0.2200	-0.540	0.5833	-0.381
0.0600 -0.301	0.2233	-0.540	0.6000	-0.362
0.0633 -0.727	0.2266	-0.540	0.6166	-0.346
0.0666 -0.552	0.2300	-0.537	0.6333	-0.336
0.0700 -0.562	0.2333	-0.537	0.6500	-0.324
0.0733 -0.527	0.2366	-0.537	0.6666	-0.308
0.0766 -0.457	0.2400	-0.537	0.6833	-0.292
0.0800 -0.448	0.2433	-0.537	0.7000	-0.282

0.7166 0.7333 0.7500 0.7666 0.7833 0.8000 0.8166 0.8333 0.8500	-0.273 -0.263 -0.257 -0.247 -0.238 -0.232 -0.232 -0.222 -0.216	7.8000 8.0000 8.2000 8.4000 8.6000 8.8000 9.0000 9.2000 9.4000	0.006 0.009 0.009 0.009 0.012 0.006 0.009 0.012 0.009
0.8666 0.8833	-0.209 -0.206	9.6000 9.8000	0.009 0.009
0.9000	-0.200	10.0000	0.009
0.9166	-0.197	11.0000	0.009
0.9333	-0.177	12.0000	0.009
0.9500	-0.187	13.0000	0.012
0.9666	-0.184		
0.9833 1.0000	-0.177 -0.174		
1.2000	-0.174		
1.4000	-0.105		
1.6000	-0.085		
1.8000	-0.066		
2.0000	-0.054		
2.2000	-0.051		
2.4000	-0.035		
2.6000	-0.028		
2.8000	-0.022		
3.0000 3.2000	-0.019 -0.009		
3.4000	-0.009		
3.6000	-0.006		
3.8000	-0.003		
4.0000	-0.006		
4.2000	0.000		
4.4000	0.000		
4.6000	0.000		
4.8000	0.000		
5.0000	0.000		
5.2000	0.003		
5.4000	0.003		
5.6000 5.8000	0.003		
6.0000	0.003 0.006		
6.2000	0.003		
6.4000	0.006		
6.6000	0.006		
6.8000	0.006		
7.0000	0.009		
7.2000	0.009		
7.4000	0.009		
7.6000	0.006		

#### Rising Head Test for Monitor Well 7-MW3

0.083		j
0.086		
SE1000C 0.090		
Environmental Logger 0.093		
05/17 17:25 0.096		
0.100		
Unit# 00831 Test 13 0.103	3 1.512 0.2666 0.841	1
0.106	6 1.527 0.2700 0.826	3
Setups: INPUT 1 0.110		3
0.113	0 70-	7
Type Level (F) 0.116		1
Mode TOC 0.120		7
I.D. 07032 0.123		5
0.126	2 2222 2 277	3
Reference 0.000 0.130		9
1(0)0)01100		9
Linearity 0.030 0.133 Scale factor 10.030 0.136		
Delay mSEC 50.000 0.143 0.146		
	70 11202	
Step 0 05/17 15:32:26 0.150 0.153		
Elapsed Time INPUT 1 0.156		
5.555		
0.0200 1.296 0.185 0.0233 1.505 0.185		
0.0200		
0.0266 1.915 0.19	0.4700	
0.0300 1.842 0.19		
0.0333 1.924 0.19	0.4000 0.07	
0.0366 1.921 0.20		
0.0400 1.874 0.20		
0.0433 1.845 0.20		
0.0466 1.794 0.21	00 1.002	
0.0500 1.794 0.21		
0.0533 1.788 0.21		
0.0566 1.769 0.22		
0.0600 1.769 0.22		
0.0633 1.753 0.22		
0.0666 1.709 0.23	00 0,000	
0.0700 1.696 0.23		
0.0733 1.664 0.23		
0.0766 1.655 0.24		
0.0800 1.642 0.24	33 0.930 0.7000 0.18	94

0.7166	0.200	7.8000	-0.012
0.7333	0.197	8.0000	-0.012
0.7500	0.181	8.2000	-0.019
0.7666	0.184	8.4000	-0.012
0.7833	0.174	8.6000	-0.019
0.8000	0.168	8.8000	-0.019
0.8166	0.162	9.0000	-0.019
0.8333	0.158	9.2000	-0.019
0.8500	0.155	9.4000	-0.019
0.8666	0.155	9.6000	-0.012
0.8833	0.146	9.8000	-0.015
0.9000	0.139	10.0000	-0.015
0.9166	0.136	11.0000	-0.019
0.9333 0.9500	0.130 0.127	12.0000	-0.022
0.9666	0.127	13.0000 14.0000	-0.022
0.9833	0.123	15.0000	-0.022 -0.022
1.0000	0.127	16.0000	-0.022
1.2000	0.123	10.0000	-0.022
1.4000	0.050		
1.6000	0.057		
1.8000	0.031		
2.0000	0.022		
2.2000	0.012		
2.4000	0.009		
2.6000	0.003		
2.8000	0.003		
3.0000	0.000		
3.2000 3.4000	-0.006		
3.6000	-0.003 -0.006		
3.8000	-0.009		
4.0000	-0.006		
4.2000	-0.009		
4.4000	-0.009		
4.6000	-0.012		
4.8000	-0.009		
5.0000	-0.015		
5.2000	-0.015		
5.4000	-0.015		
5.6000	-0.015		
5.8000	-0.012		
6.0000 6.2000	-0.006 -0.015		
6.4000	-0.015 -0.012		
6.6000	-0.012		
6.8000	-0.015		
7.0000	-0.019		
7.2000	0.000		
7.4000	-0.019		
7.6000	-0.012		

#### Falling Head Test for Monitor Well 7-MW5

	0.0833	-0.006	0.2466	-0.003
	0.0866	0.000	0.2500	-0.003
SE1000C	0.0900	-0.006	0.2533	-0.003
Environmental Logger	0.0933	0.000	0.2566	-0.532
05/17 16:46	0.0966	-0.009	0.2600	-0.095
	0.1000	0.003	0.2633	-0.022
Unit# 00831 Test 2	0.1033	-0.009	0.2666	-0.120
	0.1066	0.000	0.2700	-0.352
Setups: INPUT 1	0.1100	-0.003	0.2733	-0.123
	0.1133	-0.003	0.2766	-0.253
Type Level (F)	0.1166	-0.006	0.2800	-0.209
Mode TOC	0.1200	-0.003	0.2833	-0.393
I.D. 07051	0.1233	-0.006	0.2866	-0.542
	0.1266	-0.003	0.2900	-0.415
Reference 0.000	0.1300	-0.006	0.2933	-0.177
Linearity 0.030	0.1333	-0.003	0.2966	-0.383
Scale factor 10.030	0.1366	-0.006	0.3000	-0.545
Offset 0.040	0.1400	-0.003	0.3033	-0.504
Delay mSEC 50.000	0.1433	-0.003	0.3066	-0.558
•	0.1466	0.000	0.3100	-0.256
Step 0 05/16 14:13:51	0.1500	-0.003	0.3133	-0.501
·	0.1533	0.003	0.3166	-0.609
Elapsed Time INPUT 1	0.1566	-0.006	0.3200	-0.764
	0.1600	-0.006	0.3233	-0.720
0.0000 -0.009	0.1633	-0.006	0.3266	-0.742
0.0033 0.003	0.1666	-0.003	0.3300	-0.590
0.0066 -0.006	0.1700	-0.006	0.3333	-0.275
0.0100 0.000	0.1733	0.000	0.3500	-0.314
0.0133 -0.006	0.1766	-0.003	0.3666	-0.304
0.0166 -0.009	0.1800	-0.003	0.3833	-0.390
0.0200 0.000	0.1833	-0.003	0.4000	-0.383
0.0233 -0.009	0.1866	0.000	0.4166	-0.377
0.0266 -0.003	0.1900	-0.003	0.4333	-0.374
0.0300 -0.006	0.1933	-0.009	0.4500	-0.371
0.0333 0.000	0.1966	0.000	0.4666	-0.371
0.0366 -0.006	0.2000	-0.006	0.4833	-0.364
0.0400 0.000	0.2033	0.000	0.5000	-0.361
0.0433 -0.006	0.2066	-0.006	0.5166	-0.361
0.0466 0.000	0.2100	-0.003	0.5333	-0.358
0.0500 -0.006	0.2133	0.000	0.5500	-0.355
0.0533 0.000	0.2166	-0.003	0.5666	-0.348
0.0566 -0.003	0.2200	0.000	0.5833	-0.348
0.0600 -0.006	0.2233	0.000	0.6000	-0.348
0.0633 -0.003	0.2266	0.000	0.6166	-0.345
0.0666 -0.009	0.2300	-0.003	0.6333	-0.342
0.0700 -0.006	0.2333	0.000	0.6500	-0.342
0.0733 -0.006	0.2366	0.000	0.6666	-0.339
0.0766 -0.009	0.2400	0.000	0.6833	-0.336
0.0800 0.000	0.2433	-0.003	0.7000	-0.333

0.7166	-0.333	7.8000	-0.104
0.7333	-0.329	8.0000	-0.104
0.7500	-0.329	8.2000	-0.101
0.7666	-0.329	8.4000	-0.098
0.7833	-0.323		
0.8000		8.6000	-0.095
	-0.323	8.8000	-0.095
0.8166	-0.320	9.0000	-0.091
0.8333	-0.317	9.2000	-0.088
0.8500	-0.310	9.4000	-0.088
0.8666	-0.314	9.6000	-0.085
0.8833	-0.314	9.8000	-0.082
0.9000	-0.314	10.0000	-0.079
0.9166	-0.310	11.0000	-0.069
0.9333	-0.310	12.0000	-0.060
0.9500	-0.307	13.0000	-0.057
0.9666	-0.307	14.0000	-0.050
0.9833	-0.307	15.0000	-0.044
1.0000	-0.304	16.0000	-0.038
1.2000	-0.285	17.0000	-0.034
1.4000	-0.275	18.0000	-0.031
1.6000	-0.266	19.0000	-0.031
1.8000	-0.256	20.0000	-0.028
2.0000	-0.247	21.0000	-0.028
2.2000	-0.241	22.0000	-0.025
2.4000	-0.231	23.0000	-0.022
2.6000	-0.225	24.0000	-0.022
2.8000	-0.218	25.0000	-0.022
3.0000	-0.212	26.0000	-0.028
3.2000	-0.206	27.0000	-0.031
3.4000	-0.199	28.0000	-0.028
3.6000	-0.193	29.0000	-0.028
3.8000	-0.187	30.0000	-0.028
4.0000	-0.183	31.0000	-0.028
4.2000	-0.177	32.0000	-0.028
4.4000	-0.171	33.0000	-0.025
4.6000	-0.164	34.0000	-0.023
4.8000	-0.161	35.0000	-0.031
5.0000	-0.158	33.0000	-0.031
5.2000	-0.152		
5.4000	-0.132 -0.149		
5.6000	-0.149 -0.145		
5.8000	-0.145 -0.139		
6.0000			
	-0.136		
6.2000	-0.133		
6.4000	-0.130		
6.6000	-0.126		
6.8000	-0.120		
7.0000	-0.117		
7.2000	-0.114		
7.4000	-0.111		
7.6000	-0.111		

#### Rising Head Test for Monitor Well 7-MW5

	0.0833	0.881	0.2466	0.466
	0.0866	0.862	0.2500	0.466
SE1000C	0.0900	0.843	0.2533	0.459
Environmental Logger	0.0933	0.821	0.2566	0.463
05/17 16:50	0.0966	0.799	0.2600	0.456
03/17 10:30	0.1000	0.780	0.2633	0.456
Unit# 00831 Test 3	0.1033	0.764	0.2666	0.456
Onit# 00031 Test 3	0.1066	0.742	0.2700	0.453
Setups: INPUT 1	0.1100	0.729	0.2733	0.456
Setups: INPUT 1	0.1133	0.710	0.2766	0.456
Type Level (E)	0.1166	0.691	0.2800	0.453
Type Level (F)	0.1200	0.672	0.2833	0.444
Mode TOC	0.1233	0.650	0.2866	0.450
I.D. 07052	0.1255	0.650	0.2900	0.447
- ( 0000		0.640	0.2933	0.447
Reference 0.000	0.1300		0.2966	0.440
Linearity 0.030	0.1333	0.631	0.3000	0.444
Scale factor 10.030	0.1366	0.608	0.3033	0.444
Offset 0.040	0.1400	0.602		0.437
Delay mSEC 50.000	0.1433	0.589	0.3066	
	0.1466	0.580	0.3100	0.447
Step 0 05/16 14:51:16	0.1500	0.574	0.3133	0.437
	0.1533	0.564	0.3166	0.444
Elapsed Time INPUT 1	0.1566	0.551	0.3200	0.434
	0.1600	0.551	0.3233	0.437
0.0000 0.345	0.1633	0.539	0.3266	0.434
0.0033 0.377	0.1666	0.542	0.3300	0.431
0.0066 0.409	0.1700	0.532	0.3333	0.434
0.0100 0.012	0.1733	0.532	0.3500	0.428
0.0133 -0.003	0.1766	0.517	0.3666	0.421
0.0166 0.288	0.1800	0.517	0.3833	0.418
0.0200 0.621	0.1833	0.507	0.4000	0.415
0.0233 -0.050	0.1866	0.513	0.4166	0.412
0.0266 0.063	0.1900	0.501	0.4333	0.409
0.0300 0.513	0.1933	0.501	0.4500	0.399
0.0333 0.773	0.1966	0.501	0.4666	0.402
0.0366 0.891	0.2000	0.497	0.4833	0.399
0.0400 1.040	0.2033	0.497	0.5000	0.393
0.0433 1.176	0.2066	0.494	0.5166	0.396
0.0466 1.154	0.2100	0.488	0.5333	0.386
0.0500 1.135	0.2133	0.485	0.5500	0.390
0.0533 1.100	0.2166	0.482	0.5666	0.390
0.0566 1.075	0.2200	0.478	0.5833	0.374
0.0600 1.046	0.2233	0.478	0.6000	0.383
0.0633 1.027	0.2266	0.475	0.6166	0.374
0.0666 0.999	0.2300	0.472	0.6333	0.374
0.0700 0.973	0.2333	0.475	0.6500	0.371
0.0733 0.951	0.2366	0.472	0.6666	0.367
0.0766 0.932	0.2400	0.472	0.6833	0.364
0.0800 0.907	0.2433	0.469	0.7000	0.364
3.5555 0.557	0.2.00			

0.7166	0.361	7.8000	0.101
0.7333	0.358	8.0000	0.098
0.7500	0.358	8.2000	0.095
0.7666	0.355	8.4000	0.092
0.7833	0.352	8.6000	0.092
0.8000	0.348	8.8000	0.088
0.8166	0.348	9.0000	0.085
0.8333	0.345	9.2000	0.085
0.8500	0.345	9.4000	0.082
0.8666	0.342	9.6000	0.082
0.8833	0.339	9.8000	0.079
0.9000	0.339	10.0000	0.076
0.9166	0.339	11.0000	0.069
0.9333	0.336	12.0000	0.066
0.9500	0.333	13.0000	0.060
0.9666	0.333	14.0000	0.053
0.9833	0.333		
1.0000	0.333	15.0000	0.053
		16.0000	0.050
1.2000	0.304	17.0000	0.047
1.4000	0.288	18.0000	0.044
1.6000	0.275	19.0000	0.041
1.8000	0.263	20.0000	0.041
2.0000	0.253	21.0000	0.038
2.2000	0.244	22.0000	0.038
2.4000	0.231	23.0000	0.034
2.6000	0.225	24.0000	0.034
2.8000	0.215	25.0000	0.034
3.0000	0.209	26.0000	0.034
3.2000	0.203	27.0000	0.034
3.4000	0.193	28.0000	0.034
3.6000	0.187	29.0000	0.031
3.8000	0.180	30.0000	0.034
4.0000	0.174	31.0000	0.031
4.2000	0.171	32.0000	0.031
4.4000	0.164	33.0000	0.031
4.6000	0.158	34.0000	0.031
4.8000	0.155	35.0000	0.028
5.0000	0.149	36.0000	0.025
5.2000	0.145		
5.4000	0.139		
5.6000	0.136		
5.8000	0.133		
6.0000	0.130		
6.2000	0.123		
6.4000	0.120		
6.6000	0.117		
6.8000	0.114		
7.0000	0.111		
7.2000	0.107		
7.4000	0.104		
7.6000	0.101		

## Falling Head Test for Monitor Well 8-MW2

	0.0833	-0.767	0.2466	-0.529
	0.0866	-0.758	0.2500	-0.526
SE1000C	0.0900	-0.691	0.2533	-0.526
Environmental Logger	0.0933	-0.761	0.2566	-0.520
05/17 17:02	0.0966	-0.780	0.2600	-0.517
00/1/ 17:02	0.1000	-0.815	0.2633	-0.513
Unit# 00831 Test 6	0.1033	-0.732	0.2666	-0.510
Officer boots 1 cost c	0.1066	-0.685	0.2700	-0.507
Setups: INPUT 1	0.1100	-0.732	0.2733	-0.504
Jetups. IIII 5 1	0.1133	-0.688	0.2766	-0.501
Type Level (F)	0.1166	-0.710	0.2800	-0.498
Mode TOC	0.1200	-0.704	0.2833	-0.494
I.D. 08021	0.1233	-0.694	0.2866	-0.491
1.D. 00021	0.1266	-0.701	0.2900	-0.488
Reference 0.000	0.1300	-0.678	0.2933	-0.485
Linearity 0.030	0.1333	-0.688	0.2966	-0.482
Scale factor 10.030	0.1366	-0.669	0.3000	-0.479
Offset 0.040	0.1400	-0.666	0.3033	-0.475
Delay mSEC 50.000	0.1433	-0.663	0.3066	-0.472
Delay Molec 30.000	0.1466	-0.656	0.3100	-0.469
Step 0 05/17 08:32:46	0.1500	-0.653	0.3133	-0.466
Step 0 03/17 08.32.40	0.1533	-0.659	0.3166	-0.463
Elapsed Time INPUT 1	0.1566	-0.637	0.3200	-0.460
Elapsed Time INFOT	0.1600	-0.675	0.3233	-0.456
0.0000 -0.342	0.1633	-0.612	0.3266	-0.453
0.0033 -0.358	0.1666	-0.628	0.3300	-0.453
0.0066 -0.780	0.1700	-0.621	0.3333	-0.450
0.0100 -1.272	0.1733	-0.621	0.3500	-0.434
0.0133 -1.418	0.1766	-0.615	0.3666	-0.418
0.0166 -1.434	0.1800	-0.612	0.3833	-0.406
0.0200 -1.243	0.1833	-0.605	0.4000	-0.393
0.0233 -0.802	0.1866	-0.602	0.4166	-0.383
	0.1900	-0.599	0.4333	-0.371
0.0266 -0.678 0.0300 -0.866	0.1933	-0.593	0.4500	-0.361
	0.1966	-0.590	0.4666	-0.352
0.0333 -1.164 0.0366 -0.996	0.2000	-0.586	0.4833	-0.342
0.0400 -0.831	0.2033	-0.580	0.5000	-0.333
0.0433 -0.612	0.2066	-0.577	0.5166	-0.323
0.0466 -0.612	0.2100	-0.574	0.5333	-0.317
0.0500 -0.958	0.2133	-0.567	0.5500	-0.307
0.0533 -0.970	0.2166	-0.564	0.5666	-0.301
0.0566 -0.850	0.2200	-0.561	0.5833	-0.291
0.0600 -0.704	0.2233	-0.558	0.6000	-0.285
	0.2266	-0.555	0.6166	-0.279
	0.2300	-0.548	0.6333	-0.272
0.0666 -0.745	0.2333	-0.545	0.6500	-0.266
0.0700 -0.872	0.2366	-0.542	0.6666	-0.256
0.0733 -0.732	0.2400	-0.539	0.6833	-0.253
0.0766 -0.767	0.2400	-0.539	0.7000	-0.250
0.0800 -0.783	0.2433	-0,550	0.7000	0.200

0.7166	-0.244	7.8000	-0.038
0.7333	-0.237	8.0000	-0.038
0.7500	-0.234	8.2000	-0.038
0.7666	-0.231	8.4000	-0.038
0.7833	-0.228	8.6000	-0.038
0.8000	-0.225	8.8000	-0.034
0.8166	-0.218	9.0000	-0.038
0.8333	-0.279	9.2000	-0.034
0.8500	-0.212	9.4000	-0.038
0.8666	-0.206	9.6000	-0.041
0.8833	-0.203	9.8000	-0.038
0.9000	-0.196	10.0000	-0.038
0.9166	-0.193	11.0000	-0.034
0.9333	-0.193	12.0000	-0.031
0.9500	-0.190	13.0000	-0.031
0.9666	-0.184	14.0000	-0.034
0.9833	-0.184	15.0000	-0.031
1.0000	-0.180	16.0000	-0.031
1.2000	-0.142	17.0000	-0.034
1.4000	-0.120	18.0000	-0.038
1.6000	-0.120	19.0000	-0.038
1.8000	-0.098	20.0000	-0.038
2.0000	-0.085	21.0000	-0.038
2.2000	-0.079	22.0000	-0.034
2.4000	-0.073	23.0000	-0.034
2.6000	-0.066	24.0000	-0.034
2.8000	-0.063	25.0000	-0.034
3.0000	-0.060	26.0000	-0.034
3.2000	-0.057	27.0000	-0.034
3.4000	-0.053	28.0000	-0.038
3.6000	-0.053	29.0000	-0.041
3.8000	-0.050	30.0000	-0.034
4.0000	-0.050	31.0000	-0.034
4.2000	-0.047	32.0000	-0.034
4.4000	-0.047	33.0000	-0.031
4.6000	-0.044	34.0000	-0.034
4.8000	-0.044	35.0000	-0.034
5.0000	-0.044	36.0000	-0.044
5.2000	-0.041	30.000	-0.044
5.4000	-0.044		
5.6000	-0.041		
5.8000	-0.041		
6.0000	-0.041		
6.2000	-0.041		
6.4000	-0.041		
6.6000	-0.041		
6.8000	-0.041		
7.0000	-0.041		
7.2000	-0.041		
7.4000	-0.038		
	5.555		

7.6000

-0.038

# Rising Head Test for Monitor Well 8-MW2

	0.08	33 0.910	0.2466	
	0.08	0.916	0.2500	
SE1000C	0.09	0.910	0.2533	
Environmental Logg	ier 0.09	33 0.878	0.2566	
05/17 17:05	0.09	66 0.878	0.2600	
	0.10	00 0.862	0.2633	
Unit# 00831 Test 7			0.2666	0.447
Officer Cooci Took I	0.10		0.270	0.456
Setups: INPUT 1			0.273	3 0.450
Setups: INPUT 1	0.11		0.2766	0.447
Type Level (F)	0.11			0.447
• •	0.12			3 0.437
	0.12			
I.D. 08022	0.12			
Reference 0.000				
	0.13			
Linearity 0.030 Scale factor 10.030				
	0.14			
••				
Delay mSEC 50.0	0.14			
010 05/47 00:44:5				
Step 0 05/17 09:11:3	0.15			
err and There is INITAL I				
Elapsed Time INPU	0.16			
0.0000 4.004	0.16			
0.0000 1.091	0.16			
0.0033 1.313	0.17			
0.0066 1.287	0.17			
0.0100 1.281	0.17			
0.0133 1.262	0.18			
0.0166 1.237	0.18			
0.0200 1.268	0.18			
0.0233 1.202	0.19			
0.0266 1.183	0.19			
0.0300 1.164	0.19			
0.0333 1.116	0.20			
0.0366 1.135	0.20			
0.0400 1.097				
0.0433 1.110	0.20			
0.0466 1.087	0.2		·	
0.0500 1.081	0.2			
0.0533 1.049	0.2			
0.0566 1.046	0.23		•	
0.0600 0.976	0.2		<del>-</del>	
0.0633 0.976	0.2			
0.0666 0.999	0.2		_	
0.0700 0.986		333 0.520	=	
0.0733 0.983		366 0.510	•	
0.0766 0.916		400 0.513		
0.0800 0.942	0.2	433 0.49	1 0.70	JU 0.107

0.8166       0.161       9.000         0.8333       0.161       9.200         0.8500       0.158       9.400         0.8666       0.152       9.600         0.8833       0.149       9.800         0.9000       0.149       10.000         0.9166       0.145       11.000         0.9500       0.142       13.000         0.9500       0.142       13.000         0.9666       0.139       14.000         0.9833       0.136       16.000         1.2000       0.111       17.000         1.2000       0.111       17.000         1.8000       0.098       18.000         1.8000       0.079       20.000         2.0000       0.063       21.000         2.4000       0.053       23.000         2.4000       0.053       23.000         2.4000       0.057       24.000         2.8000       0.050       25.000         3.0000       0.044       3.000         3.8000       0.038       3.6000         3.8000       0.038         5.0000       0.038         5.0000       0.038 <t< th=""><th>0 0.034 0 0.034 0 0.038 0 0.038 0 0.028 0 0.031 0 0.028 0 0.031 0 0.028 0 0.025 0 0.025 0 0.031 0 0.028</th></t<>	0 0.034 0 0.034 0 0.038 0 0.038 0 0.028 0 0.031 0 0.028 0 0.031 0 0.028 0 0.025 0 0.025 0 0.031 0 0.028
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#### Falling Head Test for Monitor Well 8-MW4

	0.0833	-0.383	0.2466	-0.396
	0.0866	-0.351	0.2500	-0.402
SE1000C	0.0900	-0.421	0.2533	-0.399
Environmental Logger	0.0933	-0.434	0.2566	-0.402
05/17 17:08	0.0966	-0.396	0.2600	-0.402
	0.1000	-0.393	0.2633	-0.399
Unit# 00831 Test 8	0.1033	-0.412	0.2666	-0.390
	0.1066	-0.399	0.2700	-0.402
Setups: INPUT 1	0.1100	-0.405	0.2733	-0.396
	0.1133	-0.405	0.2766	-0.399
Type Level (F)	0.1166	-0.402	0.2800	-0.399
Mode TOC	0.1200	-0.405	0.2833	-0.393
I.D. 08041	0.1233	-0.402	0.2866	-0.402
	0.1266	-0.402	0.2900	-0.396
Reference 0.000	0.1300	-0.405	0.2933	-0.399
Linearity 0.030	0.1333	-0.402	0.2966	-0.399
Scale factor 10.030	0.1366	-0.405	0.3000	-0.399
Offset 0.040	0.1400	-0.405	0.3033	-0.396
Delay mSEC 50.000	0.1433	-0.402	0.3066	-0.399
Delay Moles do. doc	0.1466	-0.405	0.3100	-0.396
Step 0 05/17 10:15:08	0.1500	-0.402	0.3133	-0.399
Step 0 05/17 10:10:00	0.1533	-0.402	0.3166	-0.396
Elapsed Time INPUT 1	0.1566	-0.396	0.3200	-0.396
Liapsed Time Time of T	0.1600	-0.412	0.3233	-0.396
0.0000 0.009	0.1633	-0.402	0.3266	-0.396
0.0003 -0.428	0.1666	-0.412	0.3300	-0.396
0.0066 -0.764	0.1700	-0.399	0.3333	-0.396
0.0100 -1.541	0.1733	-0.405	0.3500	-0.393
0.0100 -1.341	0.1766	-0.380	0.3666	-0.396
	0.1800	-0.393	0.3833	-0.393
	0.1833	-0.447	0.4000	-0.393
0.0200 -1.014	0.1866	-0.383	0.4166	-0.393
0.0233 -0.713	0.1900	-0.339	0.4333	-0.393
0.0266 -0.868	0.1900	-0.497	0.4500	-0.393
0.0300 -0.358	0.1933	-0.412	0.4666	-0.390
0.0333 -0.275	0.1900	-0.412	0.4833	-0.386
0.0366 -0.123		-0.393	0.5000	-0.386
0.0400 -0.418	0.2033		0.5166	-0.390
0.0433 -0.561	0.2066	-0.501	0.5333	-0.386
0.0466 -0.659	0.2100	-0.342	0.5500	-0.386
0.0500 -0.561	0.2133	-0.323	0.5666	-0.383
0.0533 -0.244	0.2166	-0.428	0.5833	-0.386
0.0566 -0.088	0.2200	-0.447	0.6000	-0.390
0.0600 -0.440	0.2233	-0.399		
0.0633 -0.516	0.2266	-0.364	0.6166	-0.386
0.0666 -0.459	0.2300	-0.402	0.6333	-0.383
0.0700 -0.282	0.2333	-0.412	0.6500	-0.383
0.0733 -0.345	0.2366	-0.399	0.6666	-0.396
0.0766 -0.462	0.2400	-0.396	0.6833	-0.383
0.0800 -0.459	0.2433	-0.402	0.7000	-0.383

0.7166	-0.380	7.8000	-0.015
0.7333	-0.383	8.0000	-0.012
0.7500	-0.383	8.2000	-0.009
0.7666	-0.380	8.4000	-0.006
0.7833	-0.377	8.6000	-0.006
0.8000	-0.377	8.8000	-0.009
0.8166	-0.374	9.0000	-0.006
0.8333	-0.351	9.2000	-0.003
0.8500	-0.383	9.4000	-0.006
0.8666	-0.377	9.6000	-0.003
0.8833	-0.374	9.8000	-0.003
0.9000	-0.374	10.0000	-0.003
0.9166	-0.374	11.0000	0.000
0.9333	-0.374	12.0000	0.006
0.9500	-0.367	13.0000	0.009
0.9666	-0.332	14.0000	0.012
0.9833	-0.605	15.0000	0.009
1.0000	-0.501	16.0000	0.012
1.2000	-0.361	17.0000	0.015
1.4000	-0.355	18.0000	0.015
1.6000	-0.345	19.0000	0.015
1.8000	-0.336	20.0000	0.015
2.0000	-0.323	21.0000	0.019
2.2000	-0.288	22.0000	0.019
2.4000	-0.253	23.0000	0.015
2.6000	-0.218	24.0000	0.015
2.8000	-0.183	25.0000	0.009
3.0000	-0.158	26.0000	0.015
3.2000	-0.136	27.0000	0.012
3.4000	-0.114	28.0000	0.012
3.6000	-0.098		
3.8000	-0.088		
4.0000	-0.076		
4.2000	-0.066		
4.4000	-0.063		
4.6000	-0.057		
4.8000	-0.053		
5.0000 5.2000	-0.047		
	-0.047 -0.041		
5.4000 5.6000	-0.041 -0.034		
5.8000	-0.034		
6.0000	-0.031		
6.2000	-0.031		
6.4000	-0.025		
6.6000	-0.023		
6.8000	-0.022		
7.0000	-0.022		
7.2000	-0.015		
7.4000	-0.015		
7.6000	-0.015		
	2.3.0		

#### Rising Head Test for Monitor Well 8-MW4

			0.0400	0.000
	0.0833	1.128	0.2466	0.808
	0.0866	1.115	0.2500	0.798
SE1000C	0.0900	1.109	0.2533	0.795
Environmental Logger	0.0933	1.103	0.2566	0.789
05/17 17:11	0.0966	1.084	0.2600	0.786
	0.1000	1.093	0.2633	0.779
Unit# 00831 Test 9	0.1033	1.077	0.2666	0.776
	0.1066	1.071	0.2700	0.770
Setups: INPUT 1	0.1100	1.077	0.2733	0.767
	0.1133	1.062	0.2766	0.757
Type Level (F)	0.1166	1.052	0.2800	0.751
Mode TOC	0.1200	1.043	0.2833	0.751
I.D. 08042	0.1233	1.039	0.2866	0.745
	0.1266	1.030	0.2900	0.729
Reference 0.000	0.1300	1.024	0.2933	0.738
Linearity 0.030	0.1333	1.020	0.2966	0.722
Scale factor 10.030	0.1366	1.008	0.3000	0.726
Offset 0.040	0.1400	1.008	0.3033	0.713
Delay mSEC 50.000	0.1433	1.004	0.3066	0.716
Delay Moles 30.000	0.1466	0.989	0.3100	0.707
Step 0 05/17 10:44:31	0.1500	0.985	0.3133	0.713
Step 0 03/17 10.44.01	0.1533	0.976	0.3166	0.694
Elapsed Time INPUT 1	0.1566	0.973	0.3200	0.697
Elapsed Time INFOT	0.1600	0.966	0.3233	0.684
0.0000 0.152	0.1633	0.957	0.3266	0.681
0.0033 1.084	0.1666	0.954	0.3300	0.678
0.0066 0.586	0.1700	0.941	0.3333	0.672
0.0100 1.014	0.1733	0.941	0.3500	0.656
0.0133 1.214	0.1766	0.932	0.3666	0.624
0.0166 1.359	0.1800	0.932	0.3833	0.599
0.0200 1.309	0.1833	0.922	0.4000	0.589
0.0233 1.299	0.1866	0.916	0.4166	0.570
0.0266 1.268	0.1900	0.913	0.4333	0.538
0.0300 1.249	0.1933	0.900	0.4500	0.532
0.0333 1.249	0.1966	0.897	0.4666	0.513
	0.2000	0.887	0.4833	0.494
	0.2033	0.884	0.5000	0.481
	0.2066	0.871	0.5166	0.469
0.0433 1.204	0.2000	0.875	0.5333	0.456
0.0466 1.214	0.2100	0.862	0.5500	0.447
0.0500 1.198		0.865	0.5666	0.434
0.0533 1.198	0.2166		0.5833	0.434
0.0566 1.185	0.2200	0.852		0.415
0.0600 1.176	0.2233	0.849	0.6000	0.415
0.0633 1.169	0.2266	0.840	0.6166	
0.0666 1.160	0.2300	0.833	0.6333	0.396
0.0700 1.153	0.2333	0.830	0.6500	0.386
0.0733 1.122	0.2366	0.824	0.6666	0.383
0.0766 1.144	0.2400	0.814	0.6833	0.374
0.0800 1.131	0.2433	0.814	0.7000	0.370

0.7166	0.364	7.8000	0.028
0.7333	0.358	8.0000	0.028
0.7500	0.355	8.2000	0.028
0.7666	0.355	8.4000	0.025
0.7833	0.345	8.6000	0.022
0.8000	0.332	8.8000	0.025
0.8166	0.332	9.0000	0.023
0.8333	0.317	9.2000	0.022
0.8500	0.320	9.4000	0.022
0.8666	0.320	9.6000	0.019
0.8833			
	0.313	9.8000	0.019
0.9000	0.310	10.0000	0.019
0.9166	0.304	11.0000	0.015
0.9333	0.301	12.0000	0.019
0.9500	0.301	13.0000	0.015
0.9666	0.266	14.0000	0.015
0.9833	0.288	15.0000	0.015
1.0000	0.282	16.0000	0.009
1.2000	0.244	17.0000	0.009
1.4000	0.221	18.0000	0.009
1.6000	0.202	19.0000	0.006
1.8000	0.190		
2.0000	0.174		
2.2000	0.161		
2.4000	0.149		
2.6000	0.139		
2.8000	0.133		
3.0000	0.123		
3.2000	0.123		
3.4000	0.110		
3.6000	0.107		
3.8000	0.095		
4.0000	0.085		
4.2000	0.079		
4.4000	0.076		
4.6000	0.072		
4.8000	0.069		
5.0000	0.066		
5.2000	0.063		
5.4000	0.063		
5.6000	0.053		
5.8000	0.050		
6.0000	0.047		
6.2000	0.047		
6.4000	0.044		
6.6000	0.041		
6.8000	0.041		
7.0000	0.038		
7.2000	0.034		
7.4000	0.031		

7.6000

0.031

#### APPENDIX I SURVEY DATA



# OPERATIONAL TECHNOLOGIES CORPORATION

June 12, 1996

Mr. Fritz Lebow Lockheed Martin Energy Systems, Inc. 831 Tri-County Boulevard Oliver Springs, Tennessee 37840

Re:

Montana Air National Guard

Great Falls, Montana

Subcontract No. 95K-GWU13V

Dear Mr. Lebow:

Enclosed please find the survey information for the above referenced project in hard and electronic copy.

Sinecrely

David Bunn

Project Manager

cc:

File

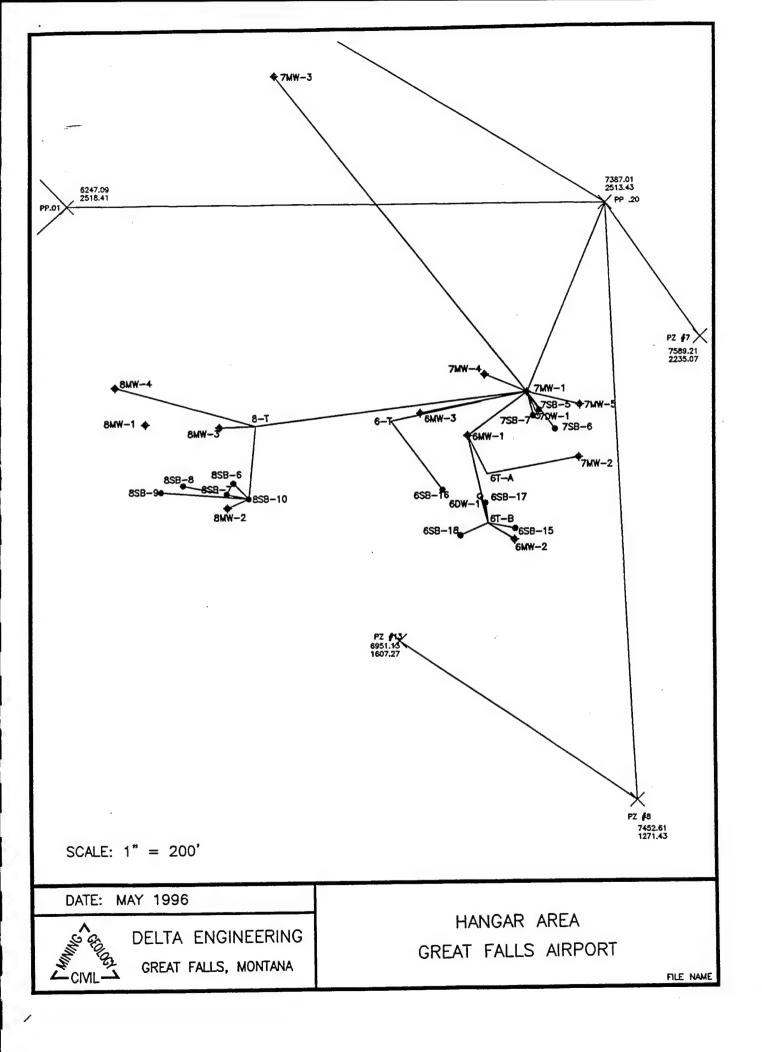
#### **OPTECH AIR NATIONAL GUARD**

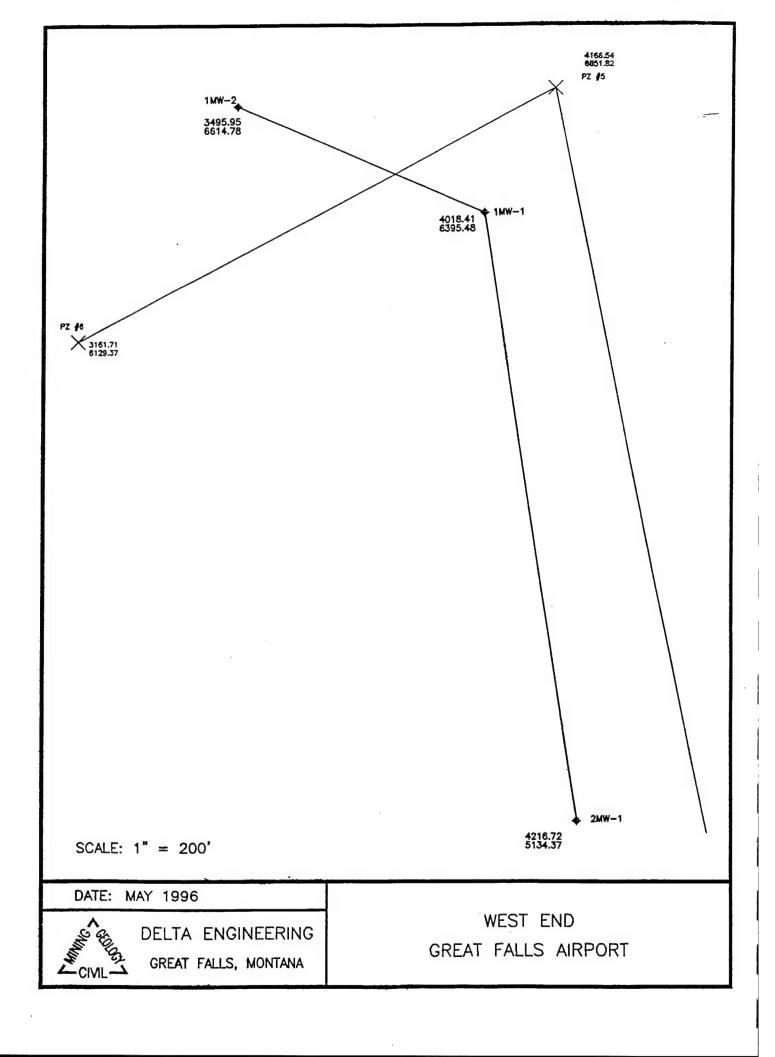
#### **MAY 1996**

Test Hole #	North	<u>East</u>	<u>Elevation</u>		
1MW-1	4018.41	6395.48	Brass Cap	=	3654.48
2MW-1	4216.72	5134.37	Brass Cap	=	3656.93
1MW-2	3495.95	6614.78	Top Steel Top PVC Ground		3653.35 3652.69 3550.91
7MW-1	7220.05	2123.93	Brass Cap	=	3675.45
7MW-2	7330.81	1987.35	Top PVC Ground	=	3676.21 3676.53
7MW-3	6687.51	2784.85	Top PVC Ground	=	3667.82 3667.31
7MW-4	7131.83	2160.56	Top PVC Ground	=	3675.98 3676.29
7MW-5	7332.93	2095.92	Top PVC Ground	=	3675.55 3675.81
7SB-5	7246.62	2085.32	Pavement	=	3675.79
7SB-6	7280.78	2045.66	Ground	=	3676.50
7SB-7	7233.53	2073.82	Pavement	=	3675.97
7DW-1	7243.57	2071.90	Ground	=	3676.10
6MW-1	7096.76	2034.19	Brass Cap (has bee		
6MW-2	7193.73	1817.64	Top PVC Ground		3675.86 3676.16

Test Hole #	<u>North</u>	<u>East</u>	Elevation		
6MW-3	6996.51	2080.84	Top PVC Ground	=	3676.32 3676.60
6-SB-15	7195.37	1840.46	Pavement	=	3676.16
6-SB-16	7043.63	1921.21	Concrete	=	3676.69
6-SB-17	7133.07	1893.36	Pavement	=	3676.54
6-SB-18	7081.28	1826.76	Pavement	=	3676.42
6-DW-1	7122.27	1906.85	Pavement	=	3676.35
8MW-2	6585.74	1887.25	Top PVC Pavement	=	3675.64 3675.90
8MW-3	6569.63	2055.04	Top PVC Pavement	=	3675.66 3675.96
8MW-4	6349.01	2140.48	Top PVC Pavement	=	3674.68 3674.98
8SB-6 8SB-7 8SB-8 8SB-9 8SB-10	6598.45 6584.55 6492.51 6445.75 6631.33	1939.17 1916.17 1934.73 1921.33 1906.41	Pavement Pavement Pavement Pavement Pavement	= = =	3675.99 3675.79 3675.95 3675.93 3675.00

The elevations given to Delta Engineering were listed in meters and only to the nearest 0.10m (0.01m = 0.31Ft.). Therefore, the elevations may vary  $\pm$  0.15 Ft.





# APPENDIX J INVESTIGATION DERIVED WASTE



October 7, 1996

William H. Hedberg, Hydrogeologist Hazardous Waste Remedial Actions Program 831 Tri-County Boulevard Oliver Springs, TN 37840

#### Dear Bill:

As we discussed, Montana Air National Guard is permitted to dispose of the decontamination, purge and development water described in your letter of September 25, 1996 to the sanitary sewer under the following conditions:

- The 150 gallons of decontamination water must be diluted with 150 gallons of potable water prior to discharge.
- The diluted decontamination water must be discharged during the day with the discharge spread over a period of several hours at a reasonably constant rate.

There are no conditions imposed on the discharge of the purge and development water. If you have any questions or comments, please feel free to contact me at 406-727-1325.

Sincerely,

Mike Jacobson, Public Utilities Plant Supervisor

City of Great Falls/Water Plant

cc: Read File (2)

#### Lockheed Martin Energy Systems

Post Office Box 2003

Oak Ridge, Tennessee 37831 - 7606

Telephone: 423-435-3572

Facsimile: 423-435-3269

LOCKHEED MARTIN

September 25, 1996

Mr. Dave Dobbs, City Engineer Department of Public Works City of Great Falls Post Office Box 5021 Great Falls, Montana 59403

Dear Mr. Dobbs:

Disposal of Containerized Water at the Montana Air National Guard Base, Great Falls International Airport, Great Falls, Montana

The Hazardous Waste Remedial Actions Program (HAZWRAP) and its subcontractor, Operational Technologies (OpTech), have completed remedial investigation field activities at the Montana Air National Guard Base, Great Falls International Airport, Great Falls, Montana. Activities associated with the investigation generated two containers of waste waters: one 1100-gallon polyethylene tank containing water from the development and purging of groundwater monitoring wells, and a second 550-gallon polyethylene tank containing water generated from the decontamination of sampling and drilling equipment.

On behalf of the Montana Air National Guard, HAZWRAP is requesting permission from the Department of Public Works, City of Great Falls to discharge these contained volumes of water into the sanitary sewer system of the Montana Air National Guard Base. Analytical results from the sampling of the two containers, DCPW-1 (decontamination water) and PADW-1 (purge and development water) are attached. Based on the analytical results obtained from the laboratory, the organic and inorganic constituents appear to be acceptable for discharge into the sanitary sewer system. The acctone concentrations reported are associated with the use of isopropanol, a commonly utilized decontamination fluid. The volume of water in container DCPW-1 is estimated to be 150 gallons and that in container PADW-1 is estimated to be 550 gallons.

Due to the approaching winter and attendant freeze problems, we would appreciate your approval for the discharge as soon as possible. We will notify the appropriate water department personnel before discharging any liquids. If you have any questions regarding this submittal please feel free to contact me at 423-435-3572.

Sincerely,

helling W W

William H. Hedberg, Hydrogeologist

Hazardous Waste Remedial Actions Program

WHH:rmf

Attachments

c: Mike Frey, ANGRC
Aimee Reynolds, Montana DEQ
Mike Jacobsen, Dept of Public Works
Iver Johnson, Montana ANG
J. W. Johnston, HAZWRAP

406 223-1325

#### 1LCA LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PADW-1

Lab Name: Laucks Testing Labs SDG No.: OP11X

Lab Sample ID: 9607483-02

Date Received: 07/15/96

Lab File ID:

U0723017.D

Date Analyzed: 07/23/96

Purge Vol:

25.0

ML

Dilution Factor: 1.0

CONCENTRATION

CAS NO.	COMPOUND .	(ug/L)	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	20	
75-15-0	: Carbon disulfide	1.0	U
75-09-2	Methylene chioride	2.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	2.2	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	0.36	J
79-01-6	Trichloroethene	0.15	J
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chiorobenzene	1.0	U
100-41-4	Ethylbenzene	0.11	J
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
75-25-2	Bromoform	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
1330-20-7	Xylene (total)	0.19	J

FORM I VOA

.Form Ver. 1.0 4-22-96

#### 1E LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

25.0 (g/ml) ML

Purge Vol:

SAMPLE NO.

PADW-1

Lab Name: La	aucks Testing Labs	SDG No.: OP11X
Matrix: (soil/wat	er) WATER	Date Received: 07/15/96
Lab Sample ID:	9607483-02	Date Analyzed: 07/23/96
Lab File ID:	U0723017.D	Dilution Factor: 1.0

 Number TICs found:
 0

 CAS NO.
 COMPOUND
 RT EST. CONC.
 Q

#### 1B SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PADW-1

	ucks Testing La	boratory		Contra	act:	
Lab Name: Lat				-		SDG No.: OP11X
Lab Code:	Ca	se No.:		SAS		
Matrix: (soil/wate	r) WATER				Lab Sample ID	9607483-02
		 (g/ml)	MI		Lab File ID:	LU072405.D
Sample wt/vol:	1000	_ (9/1111)				07/15/96
Level: (low/med	) LOW	_			Date Received	01713190
		ecanted:()	(/N)	N	Date Extracted	: 07/16/96
% Moisture:					Date Analyzed	07/24/96
Concentrated Ex	ctract Volume:	1000	(uL)			
Injection Volume	e: <u>2.0</u> (uL)				Dilution Factor	1.0
GPC Cleanup: (	Y/N) Y	_ pH: 9				,

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
	bis(2-Chloroethyl)eth	er .	10	U
111-44-4	Phenol	31	10	U
108-95-2	2-Chlorophenol		10	U
95-57-8	1,3-Dichlorobenzene		10	U
541-73-1	1.4-Dichlorobenzene		10	U
106-46-7	1,2-Dichlorobenzene		10	U
95-50-1			10	U
95-48-7	2-Methylphenol		10	U
67-72-1	Hexachloroethane	amine	10	U
621-64-7	N-Nitroso-di-n-propy	armire	10	U
106-44-5	4-Methylphenol	i	10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone	!	10	U
88-75-5	2-Nitrophenol	:	10	U
105-67-9	2,4-Dimethylphenol	nothane	10	U
111-91-1	bis(2-Chloroethoxy)	Hethane	10	U
120-83-2	2,4-Dichlorophenol	22	10	U
120-82-1	1,2,4-Trichlorobenze	ine	10	U
91-20-3	Naphthalene		10	U
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadien	e	10	U
59-50-7	4-Chloro-3-methylpl	ienoi	10	U
91-57-6	2-Methylnaphthalen	e	10	·U
77-47-4	Hexachlorocycloper	itadiene	10	U
88-06-2	2,4,6-Trichlorophen	01	25	U
95-95-4	2.4,5-Trichlorophen	01	10	U
91-58-7	2-Chloronaphthaler	<u>e</u>	25	U
88-74-4	2-Nitroaniline		10	U
208-96-8	Acenaphthylene		10	U
131-11-3	Dimethylphthalate		10	Ü
606-20-2	2,6-Dinitrotoluene		10	U
83-32-9	Acenaphthene		25	U U
99-09-2	3-Nitroaniline		25	<del>- U</del>
51-28-5	2,4-Dinitrophenol		10	<del>U</del>
132-64-9	Dibenzofuran		10	<del>-</del>
121-14-2	2.4-Dinitrotoluene		25	U U
100-02-7	4-Nitrophenol		10	· · · · · · · · · · · · · · · · · · ·
86-73-7	Fluorene		10	

## 1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PADW-1

	Tastina Lab	oraton/		Contract	
Lab Name: Laucks	Testing Lab	oratory			SDG No.: OP11X
Lab Code:	Ca	se No.:			
Matrix: (soil/water)	WATER			Lab Sample ID	9607483-02
Sample wt/vol:	1000	– (g/ml)	ML	Lab File ID:	LU072405.D
•	LOW			Date Received	: 07/15/96
Level: (low/med)		_ ()	Z/ <b>A</b> 1\	N Date Extracted	1: 07/16/96
% Moisture:	de	canted:()	(/N)		
Concentrated Extrac	t Volume:	1000	(uL)	Date Analyzed	: <u>07/24/96</u>
				Dilution Factor	7. 1.0
Injection Volume:	2.0 (uL)			_	
GPC Cleanup: (Y/N)	Y	pH: 9			

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	<u> </u>
7005 72 2	4-Chlorophenyl-phenylethe	r	10	U
7005-72-3	Diethylphthalate		10	U
84-66-2	4-Nitroaniline		25	U
100-01-6	4.6-Dinitro-2-methylphenol		25	<u>U</u>
534-52-1			10	U
86-30 <b>-</b> 6	n-Nitrosodiphenylamine	\r	10	U
101-55-3	4-Bromophenyl-phenylethe		10	U
118-74-1	Hexachlorobenzene		25	U
87-86-5	Pentachlorophenol		10	U
85-01-8	Phenanthrene	:	10	U
120-12-7	Anthracene		10	U
86-74-8	Carbazole		10	U
84-74-2	Di-n-butylphthalate		10	U
206-44-0	Fluoranthene		10	U
129-00-0	Pyrene	:	10	U
85-68-7	Butylbenzylphthalate		10	U
91-94-1	3,3'-Dichlorobenzidine		10	U
56-55-3	Benzo[a]anthracene			<del>U</del>
218-01-9	Chrysene		10	JB
117-81-7	bis(2-Ethylhexyl)phthalate		1	
117-84-0	Di-n-octylphthalate		10	U
205-99-2	Benzo[b]fluoranthene		10	U
207-08-9	Benzo[k]fluoranthene		10	U
50-32-8	Benzo[a]pyrene	:	10	. <u>U</u>
193-39-5	Indeno[1,2,3-cd]pyrene	:	10	U
	Dibenz(a,h)anthracene		10	U
53-70-3	Benzo[g,h,i]perylene		10	U
191-24-2	Delizold'illiber year			

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SAMPLE NO. TENTATIVELY IDENTIFIED COMPOUNDS

	TENTATIVELY IDENTIFE	ED COMPOUNDS	PADW-1
Lab Name: Laucks T	esting Laboratory	Contract:	
Lab Code:	Case No.:	SAS No.: SI	OG No.: OP11X
Matrix: (soil/water)	WATER	Lab Sample ID:	9607483-02
Sample wt/vol:	1000 (g/mi) ML	Lab File ID:	LU072405.D
Level: (low/med)	LOW	Date Received:	07/15/96
% Moisture:	decanted: (Y/N)	N Date Extracted:	07/16/96
Concentrated Extract \	/olume: 1000 (uL)	Date Analyzed:	07/24/96
Injection Volume: 2.0	(uL)	Dilution Factor.	1.0
GPC Cleanup: (Y/N)	Y pH: 9		
		CONCENTRATION UNI	TS:
Number TICs found:	7	(ug/L or ug/Kg) UG/	L
CAS NUMBER	COMPOUND NAME	RT ES	ST. CONC. Q

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.		Q	_
4	unknown alcohol	8.09	3_	į	JB	_
1.	unknown alcohol	8.34	2	i	JB	
3. 000100-42-5	Styrene	8.61	4	1	JN	_
4. 000120-40-1	Dodecanamide, N,N-bis(2-hydrox	22.03	2	1	JN	_
5. 000057-10-3	Hexadecanoic acid	27.64	2	-	JN	_
5. 000057-10-3	unknown	29.63	4		J	_
0.	unknown	37.40	3	İ	J	

U.S. EPA - CLP

INORGANIC ANALYSIS DATA SHEET

Lab Name: LAUCKS TESTING LABS. INC. Contract:

EFA SAMPLE NO.

Matrix (soil/water): WATER

Lab Sample ID: 07483-02

Level (low/med): LOW

Date Received: 07/15/96

: Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

ICAS No.	l L Analyta	  Concentration	151	0	; -} :M :
TOMO NO.	!	!	1 1	ω.	! !
17429-90-5	Aluminum				1 }
17440-36-0	Antimony	5.0	lu:		1F_;
17440-38-2	Arsenic	1.8	BI		IF :
17440-39-3	Barium	29.9	¦₽!		1 P 1
17440-41-7	Beryllium	0.30	i U I		1 F'_1
17440-43-9	Cadmium	2.0	: U :		F'
17440-70-2	Calcium		! _!		11
17440-47-3	Chromium	6.0_	IUI		F_
17440-48-4	Cobalt	!	1 _1_		11
17440-50-8	Copper	4.0	<u>: U : _</u>		<u>  F                                   </u>
17439-89-6	Iron	1	1 _1_		1 :
17439-92-1	Lead	1.0	<u>: U :</u>		JE_I
1 <u>7439-95-4</u>	!Magnesium	1	1		1:
17439-96-5	<u>Manganese</u>		: <u> </u>		<u></u> ;
1 <u>7439-97-6</u>	Mercury	0.20	<u>  U   </u>		TOVI
17440-02-0	Nickel	15.0_	<u>: U :</u>		<u>    P                                  </u>
17440-09-7	Potassium	1	_		1 _1
17782-49-2	Selenium	1.8	BI		IF_
17440-22-4	Silver	3.0	: U :		IP I
17440-23-5	Sodium	1	1_1_		1;
17440-28-0	Thallium	12.0	LUIW		IF I
17440-62-2	!Vanadium	1	1_1_		1;
17440-66-6	Zinc	19.2	BI		1F 1
	Cyanide		_;		11
	1	1	1_1_		1 _1

lor Before: COLORLESS Clarity Before: CLEAR Texture:

dor After: COLORLESS Clarity After: CLEAR Artifacts:

mments:

CLIENT ID: PADW-1

272

## Organics Analysis Data Sheet

Lab Name: LAUCKS TESTING LABS

Lab Sample ID : 9607483-02
Client ID : PADW-1

Matrix : WATER
Reporting Units: ug/L

Sample Size : 1.00 ml
Final Ext Vol : 1.0

Percent Moist : 100

Collection Date: 07/11/96
Date Received : 07/15/96
Ext Started : 07/18/96
Date Analyzed : 07/18/96
Date Confirmed : 07/18/96
Dil Factor : 1.0

Percent Moist : 100

		Resul	-	SDL
CAS No.	Compound			======
=========		250	U	250
	Gasoline range	230		
		1		

## Fuel Hydrocarbons Data Sheet

Lab Name: Laucks Testing Labs, Inc.

Collection Date: 7/11/96

Lab Sample ID: 9607483-02

Date Recieved: 7/15/96

Client Sample ID: PADW-1

Matrix: WATER

Date Extracted: 7/16/96

Reporting Units: mg/L

Date Analyzed: 7/20/96

Sample Size(ml): 400

Time Analyzed: 11:41

Final Volume(ml): 2

Percent Moisture: 100

Dilution Factor: 1

Compound	Result	RL
Diesel	0.26	0.25
Motor Oil	1.0 U	1.0
Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	104	50 - 150
p-Terphenyl	112	50 - 150

RL = Reporting limit.

Comment The hydrocarbon pattern does not indicate diesel.

REPORT ON SAMPLE: 9607483-02C Client Sample ID: PADW-1

Collection Date : 07/11/96 Test Code : JP4W
Date Received : 07/15/96 Test Method : M8015
Date Analyzed : 07/25/96 Extraction Method : SW 3510
Date Prepared : 07/16/96

Analyte	Result (mg/L)	IDF	PQL (mq/L)
JP-4	0.25 U	1	0.25

## Surrogate recovery report for sample 9607483-02C

	Percent	Limits:	
Surrogate	Recovery	Min.	Max.
			150
2-Fluorobiphenyl	92	50	150

\* = Indicates that recovery is outside control limits

Comments:

## LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Lab Sample ID: 9607483-01

Date Received: 07/15/96

Lab File ID:

U0723014.D

Date Analyzed: 07/23/96

Purge Vol:

25.0

ML

Dilution Factor: 20.0

CONCENTRATION

CAS NO.	COMPOUND	(ug/L)	Q
74-87-3	Chloromethane	20	U
75-01-4	Vinyl chloride	20	U
74-83-9	Bromomethane	20	U
75-00-3	Chloroethane	20	U
75-35-4	1,1-Dichloroethene	20	U
67-64-1	Acetone	6600	E
75-15-0	Carbon disulfide	20	U
75-09-2	Methylene chloride	4.8	JB
156-60-5	trans-1,2-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
156-59-2	cis-1,2-Dichloroethene	20	U
78-93-3	2-Butanone	100	U
74-97-5	Bromochloromethane	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon tetrachloride	20	U
71-43-2	Benzene	20	U
79-01-6	Trichloroethene	20	U
78-87-5	1,2-Dichloropropane	20	U
75-27-4	Bromodichloromethane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
108-10-1	4-Methyl-2-pentanone	100	U
108-88-3	Toluene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
79-00-5	1,1,2-Trichloroethane	20	U
127-18-4	Tetrachloroethene	20	U
591-78-6	2-Hexanone	100	U
124-48-1	Dibromochloromethane	20	U
106-93-4	1,2-Dibromoethane	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
79-34-5	1.1,2,2-Tetrachloroethane	20	U
75-25-2	Bromoform	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
96-12-8	1,2-Dibromo-3-chloropropane	20	U
1330-20-7	Xylene (total)	20	U

FORM I VOA

Form Ver. 1.0 4-22-96

#### 1E

## LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

DCPW-1

Laucks Testing Labs Lab Name:

SDG No.: OP11X

Matrix: (soil/water)

WATER

Date Received: 07/15/96

Lab Sample ID: 9607483-01

Date Analyzed: 07/23/96

Lab File ID:

U0723014.D

Dilution Factor: 20.0

Purge Vol:

(g/ml) ML 25.0

Number TICs found: EST. CONC. RT COMPOUND CAS NO. JN 1. 000067-63-c 18cpnpy/ Modul 2.24

#### 1LCA LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

ML

SAMPLE NO.

DCPW-1DL

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Lab Sample ID: 9607483-01DL

Date Received: 07/15/96

Lab File ID:

U0723016.D

Date Analyzed: 07/23/96

Purge Vol:

25.0

Dilution Factor: 100.0

#### CONCENTRATION

CAS NO.	COMPOUND	(ug/L)	Q	
		100	U	•
74-87-3	Chloromethane	100	U	:
75-01-4	Vinyl chloride	100	U	•
74-83-9	Bromomethane	100	U	]
75-00-3	Chloroethane	100	U	Lin Curi
75-35-4	1,1-Dichloroethene	8300	>	8/12/96 DE
67-64-1	Acetone	100	U	•
75-15-0	Carbon disulfide	45	JBD	8/12/96
75-09-2	Methylene chloride	100	U	
156-60-5	trans-1,2-Dichloroethene	100	U	<del>-</del>
75-34-3	1,1-Dichloroethane	100	<del>U</del>	-
156-59-2	cis-1,2-Dichloroethene	500	U	<del>-</del> ;
78-93-3	2-Butanone	100	Ü	7
74-97-5	Bromochloromethane	100	U	1
67-66-3	Chloroform	100	U	-
107-06-2	1,2-Dichloroethane	100	U	_
71-55-6	1,1,1-Trichloroethane	100	U	7
56-23-5	Carbon tetrachloride	100	U	7
71-43-2	Benzene	100	U	-
79-01-6	Trichloroethene	100	U	-
78-87-5	1,2-Dichloropropane		U	- '
75-27-4	Bromodichloromethane	100_	U	-
10061-01-5	cis-1,3-Dichloropropene	100	U	-
108-10-1	4-Methyl-2-pentanone	500	U	-
108-88-3	Toluene	100	U	-
10061-02-6	trans-1,3-Dichloropropene	100	U	
79-00-5	1,1,2-Trichloroethane	100		-
127-18-4	Tetrachloroethene	100		$\dashv$
591-78-6	2-Hexanone	500	U	
124-48-1	Dibromochloromethane	100		_
106-93-4	1,2-Dibromoethane	100	U	-
108-90-7	Chlorobenzene	100	<u> </u>	
100-41-4	Ethylbenzene	100	U	_
100-42-5	Styrene	100		
79-34-5	1,1,2,2-Tetrachloroethane	100	l U	
75-25-2	Bromoform	100	U	
541-73-1	1,3-Dichlorobenzene	100	U	
106-46-7	1,4-Dichlorobenzene	100	U	
95-50-1	1,2-Dichlorobenzene	100	U	
96-12-8	1,2-Dibromo-3-chloropropane	100	U	
1330-20-7	Xylene (total)	100	U	

FORM I VOA

Form Ver. 1.0 4-22-96

## LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

DCPW-1DL

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Matrix: (soil/water)

WATER

Date Received: 07/15/96

Lab Sample ID: 9607483-01DL

Lab File ID:

U0723016.D

Date Analyzed: 07/23/96

Dilution Factor: 100.0

Purge Vol:

25.0

(g/ml) ML

Number TICs found: 1

				1
CAS NO.	COMPOUND	RT	EST. CONC.	Q
1 000067-63-0		2.20	1900	JN

#### 1B SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

Lab Name: Laucks	Testing Laboratory	Contract:	DCPVV-1
Lab Code:	Case No.:	SAS No.:S	DG No.: OP11X
Matrix: (soil/water)	WATER	Lab Sample ID:	9607483-01
Sample wt/vol:	1000 (g/ml) ML	Lab File ID:	LU072404.D
Level: (low/med)	LOW	Date Received:	07/15/96
% Moisture:	decanted:(Y/N)	N Date Extracted:	07/16/96
Concentrated Extract	Volume: 1000 (uL)	Date Analyzed:	07/24/96
Injection Volume: 2	.0 (uL)	Dilution Factor.	1.0
GPC Cleanup: (Y/N)	Y pH: 9.3		

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q ,
111-44-4	bis(2-Chloroethyl)eth	er	10	U
108-95-2	Phenol		42	
95-57-8	2-Chlorophenol		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
108-60-1	2,2'- oxybis(1-chlorog	oropane)	10	<u> </u>
95-48-7	2-Methylphenol		10	<u> </u>
67-72-1	Hexachloroethane		10	U
621-64-7	N-Nitroso-di-n-propyl	amine :	10	U
106-44-5	4-Methylphenol	:	10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
88-75-5	: 2-Nitrophenol	<u> </u>	10	U
105-67-9	2,4-Dimethylphenol	:	10	U
111-91-1	bis(2-Chloroethoxy)n	nethane	10	U
120-83-2	; 2,4-Dichlorophenol		10	U
120-82-1	1,2,4-Trichlorobenze	ne .	10	U
91-20-3	Naphthalene		10	U
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadiene		10	U
59-50-7	4-Chloro-3-methylph		10	U
91-57-6	2-Methylnaphthalene	<u> </u>	10	U
77-47-4	Hexachlorocyclopen	tadiene	10	U
88-06-2	2,4,6-Trichloropheno	<u> </u>	10	U
95-95-4	2,4,5-Trichloropheno	)!	25	U
91-58-7	2-Chloronaphthalene	·	10	U
88-74-4	2-Nitroaniline		25	U
208-96-8	Acenaphthylene		10	U
131-11-3	Dimethylphthalate		10	U
606-20-2	2,6-Dinitrotoluene		10	U
83-32-9	Acenaphthene		10	U
99-09-2	3-Nitroaniline		25	U
51-28-5	2,4-Dinitrophenol		25	U
132-64-9	Dibenzofuran		10	U
121-14-2	2,4-Dinitrotoluene		10	. U
100-02-7	4-Nitrophenol		25	<u> </u>

## 1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1

_	: - I abandoni	Contra	act:	
Lab Name: Laucks	Testing Laboratory	_		OD No. OPIN
Lab Code:	Case No.:	SAS		DG No.: <u>OP11X</u>
	WATER		Lab Sample ID:	9607483-01
Matrix: (soil/water)			Lab File ID:	LU072404.D
Sample wt/vol:	1000 (9)		Date Received:	07/15/96
Level: (low/med)	LOW			
% Moisture:	decanted:(Y/N)	N	Date Extracted:	07710730
Concentrated Extrac	+ Volume: 1000 (uL)		Date Analyzed:	07/24/96
	, voicino		Dilution Factor.	1.0
Injection Volume:	2.0 (uL)		Dilation ( Letter)	
GPC Cleanup: (Y/N)	Y pH: 9.3			

	CONCENTION			
CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
	Fluorene		10	U
86-73-7	4-Chlorophenyl-phenylether		10	U
7005-72-3			10	U
84-66-2	Diethylphthalate		25	U
100-01-6	4-Nitroaniline		25	U
534-52-1	4.6-Dinitro-2-methylphenol		10	U
86-30-6	n-Nitrosodiphenylamine	_ <del></del>	10	U
101-55-3	4-Bromophenyl-phenylether		10	U
118-74-1	Hexachlorobenzene		25	U
87-86-5	Pentachlorophenol		10	U
85-01-8	Phenanthrene		10	U
120-12-7	Anthracene		10	U
86-74-8	Carbazole	· .	1	J
84-74-2	Di-n-butylphthalate		10	U
206-44-0	Fluoranthene		10	U
129-00-0	Pyrene		10	Ū
85-68-7	Butylbenzylphthalate		10	U
91-94-1	3,3'-Dichlorobenzidine	<del> </del>	10	U
56-55-3	Benzo[a]anthracene		10	U
218-01-9	Chrysene		28	В
117-81-7	bis(2-Ethylhexyl)phthalate		20	J
117-84-0	Di-n-octylphthalate		10	U
205-99-2	Benzo[b]fluoranthene			U
207-08-9	Benzo[k]fluoranthene		10	U
50-32-8	Benzolajpyrene		10	- <del>U</del>
193-39-5	Indeno[1,2,3-cd]pyrene		10	<del>- U</del>
53-70-3	Dibenz[a,h]anthracene		10	U
191-24-2	Benzo[g,h,i]perylene		10	
191-24-2		_		

#### 1F

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

			DCPW-1
ab Name: Laucks	Testing Laboratory	Contract:	
.ab Code:	Case No.:	SAS No.: SE	OG No.: OP11X
Matrix: (soil/water)	WATER	Lab Sample ID:	9607483-01
Sample wt/vol:	1000 (g/ml) ML	Lab File ID:	LU072404.D
_evel: (low/med)	LOW	Date Received:	07/15/96
% Moisture:	decanted: (Y/N)	N Date Extracted:	07/16/96
Concentrated Extract	Volume: 1000 (uL)	Date Analyzed:	07/24/96
njection Volume: 2.	0 (uL)	Dilution Factor.	1.0
SPC Cleanup: (Y/N)	Y pH: 9.3		

Number TICs found:	30 (	ug/L or ug/Kg)	UG/L		_
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1. 002313-65-7	2-Hexanol, 3-methyl-	8.00	. 3	JN	-
2.	unknown alcohol	8.09	5	JB	* 343#1 <sub>4</sub>
3. 000629-20-9	1,3,5,7-Cyclooctatetraene	8.61	6	JN	
4. 000111-76-2	Ethanol, 2-butoxy-	9.15	4	JN	_
5. 000110-13-4	2,5-Hexanedione	9.77	5	JN	-
6. 000100-52-7	Benzaldehyde	10.47	5	JN	-
7. 020324-32-7	2-Propanol, 1-(2-methoxy-1-n	neth 11.54	2	JN	-
8. 013429-07-7	2-Propanol, 1-(2-methoxyprop		2	JN	-
9. 000098-86-2	Acetophenone	12.95	16	JN	-
10.	unknown	13.94	4	J	-
11. 000149-57-5	Hexanoic acid, 2-ethyl-	14.43	4	JN	_
12. 000768-03-6	2-Propen-1-one, 1-phenyl-	14.86	1 4	JN	-
13.	unknown	15.51	6	J	-
14. 000579-07-7	1,2-Propanedione, 1-phenyl-	16.57	9	JN	-
15. 000105-60-2	Caprolactam	17.09	2	JN	-
16. 000120-40-1	Dodecanamide, N,N-bis(2-hy-		36	JN	_
17. 000134-81-6	Ethanedione, diphenyl-	26.41	6	JN	-
18. 000057-10-3	Hexadecanoic acid	27.67	6	JN	-
19.	unknown	27.82	5	J	_
20. 001501-05-9	Benzenepentanoic acid, .delta		2	JN	-
21.	unknown	28.95	2	J	-
22. 000120-46-7	1,3-Propanedione, 1,3-dipher		17	JN	-
23.	unknown	29.64	4	J	_
24. 000630-01-3	Hexacosane	31.60	3	JN	_
25.	unknown	33.48	4	J	
26. 000593-49-7	Heptacosane	34.72	2	JN	-
27.	unknown	35.06	2	J	-
28.	unknown	35.33	5	.J	<del></del>
29.	unknown	37.16	2	J	_
30.	unknown	45.67	4	J	_

#### U.S. EPA - CLP

INDRGANIC ANALYSIS DATA SHEET

EFA SAMFLE NO.

: GDCFW1 :

: Name: LAUCKS TESTING LABS. INC. — Contract:

o Code: LAUCKS - Case No.: SAS No.: SDG No.: OF11%

trix (soil/water): WATER

Lab Sample ID: 07483-01

vel (low/med): LOW

Date Received: 07/15/96

Bolids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

				· · ·
l loas No.	   Analvte 	  Concentration 		im i
7429-90-5	Aluminum		l!	
ALL TORSES ALTER TO	Antimony	7.2	! IMW	
17440-33-2	Arsenic	5.0	IB!W	IF !
17440-39-3		31.8	IB!	IF!
17440-41-7		0.30	: <u>U:</u>	<u> </u>
7440-43-9		2.0	! <u>U!</u>	IP.
17440-70-2	Calcium		1 1	
17440-47-3	Chromium	24.3	1	<u> </u>
17440-48-4	Cobalt		1_1	
7440-50-8	Copper	13.0	:B:	1F
7439-89-6	Iron	1	1.1	! !
7439-92-1	Lead	11.0	IU!	IF.
17439-95-4	Magnesium		1_1	
17439-96-5	Manganese	1	1_1	
7439-97-6	Mercury	0.20	! <u>U!</u>	<u> </u>
17440-02-0	Nickel	5.0	<u> U </u>	!F!
7440-09-7	Potassium	!	.   _	
17782-49-2	Selenium	5.0	! <u>U</u> ;	<u> </u>
7440-22-4	Silver	13.0	<u> </u>	!P!
7440-23-5	Sodium	<u> </u>	<u> </u>	
17440-28-0	:Thallium	12.0	:U:W_	<u>:F</u> :
17440-62-2	:Vanadium	_1	-   _   -	
17440-66-6	Zinc	126.2		<u> </u>
	Cyanide	_		
	1	.1		i

or Before: COLORLESS Clarity Before: CLEAR Texture:

or After: COLORLESS Clarity After: CLEAR Artifacts:

ments:

CLIENT ID: DCPW-1

#### Organics Analysis Data Sheet

Lab Name: LAUCKS TESTING LABS

Lab Sample ID : 9607483-01 Client ID : DCPW-1

Collection Date: 07/11/96
Date Received: 07/15/96
Ext Started: 07/18/96
Ext Completed: 07/18/96
Date Analyzed: 07/18/96
Date Confirmed: 07/18/96
Dil Factor: 1.0 Matrix : WATER Reporting Units: ug/L

Sample Size : 1.00 ml

Final Ext Vol : 1.0 Percent Moist : 100

CAS No.	Compound	Result	SDL
	Gasoline range	250 U	250

SDL = Sample Detection Limit

## Fuel Hydrocarbons Data Sheet

Lab Name: Laucks Testing Labs, Inc.

Collection Date: 7/11/96

Lab Sample ID: 9607483-01

Date Recieved: 7/15/96

Client Sample ID: DCPW-1

Matrix: WATER Reporting Units: mg/L

Date Extracted: 7/16/96

Date Analyzed: 7/20/96

Sample Size(ml): 400

Time Analyzed: 11:03

Final Volume(ml): 2 Percent Moisture: 100

Dilution Factor: 1

Compound	Result	RL
Diesel	0.39	0.25
Motor Oil	1.0 U	1.0
Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	103	50 - 150
p-Terphenyl	115	50 - 150

RL = Reporting limit.

Comment The hydrocarbon pattern does not indicate diesel.

Sont

MAILING ADDRESS: P.O. BOX 2003, MS-7606 OAK RIDGE, TN 37831-7606 EXPRESS ADDRESS:
TRI-COUNTY MALL
831 TRI-COUNTY BOULEVARD
OLIVER SPRINGS, TN 37840

TO:

FAX #:

**VERIFY #:** 

OFFICE #:

Aimee Rynolds

406-444-1901

-1101

OFFICE #:

Bill Hidbory

FAX #: (423) 435-3269

VERIFY#: (投3) 435-3100

423-435-3572

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**COMMENTS:** 

9126/06

Aimec,

A hard copy will follow by regular mail. Planse let me troom it you forsee a problem.

Bill Halburg



Sent

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TRI-COUNTY MALL
831 TRI-COUNTY BOULEVARD
OLIVER SPRINGS, TN 37840

TO:

FROM:

FAX #:

**VERIFY #**:

OFFICE #:

Dave Debu

406-771-0700

**VERIFY#**:

OFFICE #:

Bill Hedberg

FAX #: (423) 435-3269

(423) 435-3100

423-435-3572

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COMMENTS:

9/28/16

Mr Dubles

Jim Pearce supplied your name as the proon to direct this request to. A hard copy will follow by regular vail. Please let me those it you forsee a problem.

Bill Halberg

LOCKHEED WARTIN ENERGY SYSTEMS

#### DEPARTMENT OF ENVIRONMENTAL QUALITY SUPERFUND SECTION



PHONE # (406) 444-1420

FAX # (406) 444-1901

STATE OF MONIANA

OFFICE: LOCATION:

2209 Phoenix Ave Helena, MT MAILING PO Box 200901 ADDRESS: Helena, MT 59620-0901

June 5, 1996

Fritz Lebow Lockheed Martin Energy Systems PO Box 2003 Oak Ridge, TN 37831-7606

RE: Great Falls International Airport - Investigation-Derived Waste

Dear Mr. Lebow:

I am writing this letter in response to your letter of May 23, 1996. Enclosed are four copies of your letter which appear to have been intended for your cc's and which I inadvertently received. The Montana Department of Environmental Quality (MDEQ) approves of your request to dispose of the contents of drums 1-4, 10-14, 16-18, 22-27, 31-45, 47-59, and 62-65 by spreading them at the area of the base previously designated by Major Johnson. MDEQ also approves of your request to dispose of drums 66, 67, 68, 71, and 72 as solid waste.

If you have any further questions, please feel free to call me.

Sincerely,

Aimee T. Reynolds Environmental Scientist

Crime Keynolds

**CECRA Program** 

#### Lockheed Martin Energy Systems

Post Office Box 2003

Oak Ridge, Tennessee 37831 - 7606

Telephone: (423) 435-3257 Facsimile: (423) 435-3269



May 23, 1996

Ms. Aimee T. Reynolds State of Montana Department of Environmental Quality Superfund Section P.O. Box 200901 Helena, Montana 59620-0901

Dear Ms. Reynolds:

## Montana Air National Guard, Great Falls, Montana—Disposal of Investigation-Derived Waste

Per our meeting on Monday, May 13, 1996, at the Montana Air National Guard Base, Great Falls, I have enclosed a marked copy of the drum inventory list (May 21, 1996) of investigation-derived waste (see Enclosure 1). The drums marked with an asterisk contain rock cuttings and water generated during the drilling of bedrock groundwater monitoring wells. As a follow-up to your verbal approval during our meeting, we are requesting your written confirmation to dispose of the contents of these drums by spreading them at the area of the base previously designated by Major Iver Johnson. These drums are itemized as follows: drums 1-4, 10-14, 16-18, 22-27, 31-45, 47-59, and 62-65.

The only analytical data available from the rock cuttings are from samples taken at the 20-ft interval on the wells where surface casings were set. The purpose for setting the surface casings at these specific locations was to rule out the potential for any vertical cross contamination. These laboratory data (see Enclosure 2) indicate that low levels of the common laboratory contaminants methylene chloride, acetone, 2-butanone, and 2-hexanone and very low levels of xylene, toluene, 4-methyl-2-pentanone, and carbon disulfide are present.

As mentioned during our meeting, the marked drums contain the cuttings generated during the air drilling of bedrock sandstones to install the groundwater monitoring wells. Because the Air National Guard Readiness Center's policy is to avoid installing monitoring wells in source areas of contamination, all the wells were installed either upgradient or downgradient from any potential area of soil/bedrock contamination as previously defined during the Site Investigation. The water contained in some of the marked drums is potable water from the base that was added to clean up the walls of the drill holes to enable better recharge of the wells; this water (about 35 gal/hole) was recovered and drummed.

In addition to the drums marked with an asterisk, we are also requesting your approval to dispose of drums 66, 67, 68, 71, and 72 through the existing waste disposal mechanism at the base. These drums contain solid waste such as personal protective equipment, clothing, waste bailers, gloves, and rope.

Disposition of the contents of the remaining drums, which contain cuttings from soil borings, the containerized water from monitoring wells development and purging operations, and wastes generated during decontamination operations, will depend upon the results of ongoing and planned fixed-base laboratory analyses.

Ms. Aimee T. Reynolds Page 2 May 22, 1996

Thank you for your assistance in this matter. Bill Hedberg and I certainly enjoyed meeting with you, and we look forward to working with you and other state officials in the future.

Sincerely,

F. E. Lebow, Project Manager

Hazardous Waste Remedial Actions Program

FEL:bnb

**Enclosures** 

c: D. Bunn (OpTech)

G. F. Delong

M. Frey (ANGRC)

W. H. Hedberg

I. Johnson (Montana ANG)

T. Neuman (Montana ANG)

File-RC

## Drum Inventory (5/21/96) at Montana Air National Guard Great Falls, Montana Remedial Investigation Field Activity

Drum No.	Soil Boring/MW Location	Drum Content	<u>Date</u>
	0.3.0322	Soil cutting (0-20')	5/2/96
1*	8-MW3	Soil cutting (20-40')	5/2/96
2*	8-MW3	Soil cutting (40-65')	5/2/96
3*	8-MW3	Soil cutting+water	5/2/96
4*	8-MW3	Soil cutting	4/25/96
5	8-SB7	Soil cutting	4/25/96
6	8-SB6	Soil cutting	4/25/96
7	1-8-SB8	Soil cutting	4/30/96
8	8-SB9	Soil cutting	4/30/96
9	8-SB10	Cutting + water(25-41')	4/30/96
10*	6-MW3	Soil cutting (20-25')	4/30/96
11*	6-MW3	Cutting + water	4/30/96
12*	6-MW3	Cutting + water (56-65')	4/30/96
13*	6-MW3	Soil cutting(41-56')	4/30/96
14*	6-MW3	_ ·	4/30/96
15	6-SB16	Soil cutting Soil cutting(20-28')	4/30/96
16*	6-MW2	Soil cutting(0-20')	4/29/96
17*	6-MW2	Soil cutting(0-20')	4/30/96
18*	6-MW2	<del>-</del> -	4/26/96
19	6-SB15	Soil cutting	4/26/96
20	6-SB17	Soil cutting	4/26/96
21	6-SB18	Soil cutting	4/29/96
22*	6-MW2	Soil cutting(0-20')	4/29/96
23*	6-MW3	Soil cutting(0-10')	4/29/96
24*	6-MW3	Soil cutting(10-20')	4/30/96
25*	6-MW2	cutting + water(60-65')	4/30/96
26*	6-MW2	Soil cutting(50-60')	4/29/96
27*	7-MW5	Soil cutting(20-35')	
28	7-SB7	Soil cutting	4/27/96
29	7-SB5	Soil cutting	4/27/96
30	7-SB6	Soil cutting	4/27/96
31*	7-MW2	Soil cutting(0-20')	4/28/96
32*	7-MW5	Soil cutting(0-10')	4/28/96
33*	7-MW5	Soil cutting(10-20').	4/28/96
34*	7-MW4	Soil cutting(0-10')	4/28/96
35*	7-MW4	Soil cutting(10-20')	4/28/96
36*	7-MW4	Soil cutting(40-55')	5/1/96
37*	7-MW2	Soil cutting(0-20')	4/28/96
38*	7-MW5	Soil cutting(55-80')	4/29/96
39*	7-MW5	Soil cutting(80-82')	4/29/96
40*	7-MW5	Soil cutting(35-55')	4/29/96
41*	7-MW4	Soil cutting(55-71')	5/1/96
42*	7-MW4	Cutting + water	5/1/96
43*	7-MW4	Soil cutting(20-40')	5/1/96

44*	7-MW3	Soil cutting(0-35')	5/1/96
45*	7-MW3	Soil cutting(35-70')	5/1/96
46	6-DW1	Soil cutting	4/27/96
47*	7-MW2	Soil cutting(20-33')	5/1/96
48*	7-MW2	Soil cutting(47-59')	5/1/96
49*	7-MW2	Soil cutting(59-70')	5/1/96
50*	7-MW2	Soil cutting(33-47')	5/1/96
51*	8-MW4	cutting + water	5/2/96
52*	8-MW4	Soil cutting(0-40')	5/2/96
53*	8-MW4	Soil cutting(40-65')	5/2/96
54*	8-MW4	Cutting + water	5/2/96
55*	8-MW2	Soil cutting(0-30')	5/2/96
56*	8-MW2	Soil cutting(30-40')	5/2/96
57*	8-MW2	Soil cutting(40-65')	5/2/96
58*	8-MW2	cutting + water	5/2/96
59*	8-MW4	cutting + water	5/8/96
60	NA	Mud/decon pad	5/9/96
61	NA	Mud/decon pad	5/9/96
62*	1-MW2	Soil cutting(0-48')	5/1/96
63*	1-MW2	Soil cutting(48-68')	5/1/96
64*	1-MW2	Soil cutting(68-70')	5/1/96
65*	1-MW2	Cutting + water	5/1/96
66	NA	Solid waste	4/23/96
67	NA	Solid waste	4/28/96
68	NA	Solid waste	5/10/96
69	7-DW1	Soil cutting	4/27/96
70	NA	Mud from decon. pad	5/9/96
71	NA	PPE	5/16/96
72	NA	PPE	5/16/96
73	NA	Empty	5/16/96
74	NA	Empty	5/18/96

Signed Michael M. Ghazizadeh, Ph.D., CPG Operational Technologies Corporation MANG Site Manager

cc: David Bunn, OpTech
Fritz Lebow, HAZWRAP MANG Proj. Manager.
Proj. File(RC)-1083

# Laucks Testing Laboratories, Inc.

940 South Harney St. Seattle, WA 98108 (206) 767-5060 FAX (206) 767-5063

#### **FAX Cover Sheet**

Tož		FAX Number:	423-483-2800
Company:	Optech	Date:	
From:	Kathy Kreps	No. of Pages (including cover page):	7

Following are facsimile sample results for the following:

Laucks Sample #	OPTECH Sample #	
9605104-01	6-MWZ-20	(Check here [Zif VOCs only)
9605704-02	6-MW3-205	(Check here ☐ if VOCs only)
" - 03	7-MWZ-20.5	(Check here [Fif VOCs only)
· - 04	7-MW4-20.5	(Check here ☐ if VOCs only)
" - 05	7-MW5-70.5	(Check here [Fif VOCs only)
		(Check here [] if VOCs only)
		(Check here [] if VOCs only)

Sample 96 05704-02 yielded fow internal Standard arege due to possible matter interference. Re-analysis will be performed.

RES\_FX.DOC

#### 18 VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK591

SAMPLE NO.

Lab Name: LAUCKS TESTING LABS

Contract:

Lab Code: LAUCKS Case No.: SAS No.:

SDG No.: OP01X

Matrix: (soil/water) SOIL

Lab Sample ID: B0506MV0SF1

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: F0506007.D

Level: (low/med) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 05/06/96

GC Column: D8-624 ID: 0.53(mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

		CUNCERTRA	ITOM OUT 12-		
CAS NO.	COMPOUND	(ug/L or	ug/Kg) UG/KG		0
74-87-3	Chloromethane		1	10;	U
74-83-9	Bromomethane			10;	U
75-01-4	Vinyl Chlorid	le		10;	U
75-00-3	Chloroethane_			10;	U
75-09-2	Methylene Chl	oride		1	J
67-64-1	Acetone			2	J
75-15-0	Acetone	ide		10	U
75-35-4	1,1-Dichloroe	thene		10	U
75-34-3	1,1-Dichloroe	thane		10;	U
540-59-0	1,2-Bichloroe	theme (total)	);	10	U
67-66-3	Chloroform			10	U
107-06-2	1,2-Dichloroe	thane	;	10;	U
78-93-3	2-Butanone			10;	U
71-55-6	1,1,1-Trichlo	roethane	i	10;	U
56-23-5	Carbon Tetrac	hloride		10	U
75-27-4	Bromodichloro	methane		10	U
78-87-5	1,2-Dichlorop	ropane		10	
10061-01-5	cis-1,3-Dichl	oropropene		10	
79-01-6	Trichloroethe	ne		10	
124-48-1	Dibromochloro	net hane		10	-
79-00-5	1,1,2-Trichlo	roethane		10	
71-43-2	Benzene			10	
10061-02-6	trans-1,3-Dic	hloropropene		10	U
75-25-2	Bromoform			10	
108-10-1	4-Methyl-2-Pe	ntanone		10	
591-78-6	2-Hexanone			10	U
127-18-4	Tetrachloroet	hene		10	
79-34-5	1,1,2,2-Tetra	chloroethane		10	
108-88-3	Toluene			10	-
108-90-7	Chlorobenzene			10	
100-41-4	Ethylbenzene_			10	
100-42-5	Styrene			10	
1330-20-7	Styrene Xylene (total	)		10	
	.,,	·	7		

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

6-HW2-20

Lab Name: LAUCKS TESTING LABS Contract:

Lab Code: LAUCKS Case No.:

SAS No.:

SDG No.: OPO4X

Matrix: (soil/water) SOIL

Lab Sample ID: 9605104-01

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: F0506009.D

Level: (low/med) LOW

Date Received: 05/04/96

% Moisture: not dec.

Date Analyzed: 05/06/96

GC Column: DB-624 ID: 0.53(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg) U	G∕KG	Q
74-87-3	Chloromethane	10	
74-83-9	Bromomethanei	10	
75-01-4	Vinyl Chloride	10	
77 00 2	Chloroethane	10	
75-09-2	Methylene Chloride	2	JB
47-44-1	Carbon Disulfide	11	
75 15 1 - 1	Carbon Disulfide	1	J
75 25 4	1,1-Dichloroethene	10	U
75 04 3	1 1-Dichloroethane	10	U
/5-34-3	1,2-Dichloroethene (total)	10	U
540-59-0	Chloroform	10	U
67-66-3	1,2-Dichloroethane	10	U
107-06-2	2. Dudanna	2	J
78-93-3	2-Butanone	10	Ü
71-55-6	1,1,1-1f1cn1oroecilale	10	Ū
56-23-5	Carbon Tetrachloride	10	Ū
75-27-4	Bromodichloromethane	10	-
78-87-5	1,2-Dichloropropane	10	
10061-01-5	cis-1,3-Dichloropropene	10	ม
79-01-6	Trichloroethene	10	Ü
124-48-1	Dibromochloromethane	;	-
79-00-5	1,1,2-Trichloroethane	10;	-
71-43-2	Benzene	10	-
10041-02-6-	trans-1.3-Dichloropropene	10	-
75-25-2	Bromoform	10	_
108-10-1	4-Methyl-2-Pentanone	10	-
591-79-6	2-Hexanone	10	-
127-18-4	Tetrachloroethene	10	
70 24 5	1_1_2_2-Tetrachiorosinanei	10	_
100-00-2	Toluene	10;	U
100-00-3	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10;	U
100-41-4	Styrene	10	U
1330-20-7	Styrene Xylene (total)	10	U

6-MW3-20.5

Lab Name: LAUCKS TESTING LABS Contract:

Lab Code: LAUCKS Case No.: \$AS No.:

SDG No.: OPO4X

Matrix: (soil/water) SOIL | Lab Sample ID: 9605104-02

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0506010.D

Level: (low/med) LOW

Date Received: 05/04/96

\* Moisture: not dec.

Date Apalyzed: 05/06/96

GC Column: D8-624 ID: 0.53(mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

	CAS NO.	COMPOUND	(ug/L or ug.	/Kg) UG/KG		Q
-		-Chloromethane_			0	
1		-Bromomethane			0;	
i	75-01-4	-Vinyl Chloride_		1	۱٥,	U ¦
1	75-00-3	-Chloroethane		1	0¦	U
1	75-09-2	-Methylene Chlor	ide	đ ł	2¦	JB ¦
1	67-64-1	-Acetone -Carbon Disulfide		1	9¦	В
1	75-15-0	-Carbon Disulfide	9	!	1;	J
i	75-35-4	-1,1-Dichloroeth	ene	1	01	U
į	75-34-3	-1.1-Dichloroeth	ane	1	0¦	U
Ì	540-59-0	-1.2-Dichloroeth	ene (total)_	1	o:	U
į	67-66-3	-Chloroform		1	0	U
i	107-06-2	-1,2-Dichloroeth	ine	1	0	U
i	78-93-3			1	0 !	U
i	71-55-6	-1,1,1-Trichloro	ethane	1	0	Ð :
i	56-23-5	-Carbon Tetrachl	oride	1	0	U
į	75-27-4	-Bromodichlorome	thane	1	0	U
i		-1,2-Dichloropro		1	o i	U
į		-cis-1,3-Dichlor			0 ;	U
i	79-01-6	-Trichloroethene	With a		o :	
į		-Dibromochlorome		1	0;	U
i		-1,1,2-Trichloro		•	o:	U
i	71-43-2		1 m b k	1	0	U
	10061-02-6	-trans-1,3-Dichle	propropene	1	οį	U
i	75-25-2	-Brosofors	1 1 1 1 1 .	1	o i	u i
!	108-10-1	-4-Methyl-2-Pent	anone	1	o:	U
ì	591-78-6	-2-Hexanone	1115	•	ō.	U
1		-Tetrachloroethe			ō:	Ü
1	79-34-5	-1,1,2,2-Tetrach	ornet hane	•	0	Ü
	100-00-2	-Toluene	rol Katimitis		0	ŭ
1		-Chlorobenzene		•	o i	Ŭ
1		-Ethylbenzene			o!	ŭ
1		-Styrene		•	o:	ŭ
1		-Xylene (total)_		!	1	j
1	1330-20-/	-VATERE ( COURT) -			<b>~</b> [	
1 _				1	. اس	

## VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

7-MW2-20.5

Lab Name: LAUCKS TESTING LABS

Lab Code: LAUCKS Case No.:

Contract:

SAS No.:

SDG No.: OPO4X

Matrix: (soil/water) SOIL

Lab Sample ID: 9605104-03

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: F0506011.D

Level: (low/med) LOW

Date Received: 05/04/96

% Moisture: not dec.

Date Analyzed: 05/06/96

GC Column: OB-624 ID: 0.53(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume:

(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/l/pr ug/kg) UG/kg

CAS NO.	COMPOUND (ug/l pr ug/Kg) UC	i/KG	ū
74-87-3	Chloromethane		U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride		U
75-00-3	Chloroethane		U
75-09-2	Methylene Chloride	2	
67-64-1	Acetonei		В
75-15-0	Carbon Disulfide		J
75-35-4	1,1-Dichloroethene	!	U
75-24-3	1 1-Nichloroethane		U
540-59-0	1,2-Dichloroethehe (total)		U
67-66-3	Chloroform 1,2-Dichloroethane	:	U
107-06-2	1,2-Dichloroethane		u
70-92-3	2-Rutanone	!	J
71-55-6	1,1,1-Trichloroethane	10	IJ
56-23-5	Carbon Tetrachloride	,	u
75-27-4	Bromodichloromethane	10;	IJ
78-87-5	1,2-Dichloropropane	10;	บ
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10;	U
124-48-1	Dibromochloromethane	,	U
79-00-5	1,1,2-Trichlorop hane	10;	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bronoforn	10	U
108-10-1	4-Met hy1-2-Pentanone	10;	U
591-78-6	2-Hexanone	10;	U
127-18-4	Tetrachloroethene	10;	U
79-24-5	1,1,2,2-Tetrachloroethane	10	U
100-00-2	Toluene	1;	J
109-90-7	Chlorobenzene	10	U
100-70-7	Ethylbenzene	10	U
	Styrene	10	U
100-42-33	Xylene (total)	1	J
1330-20-/			

SAMPLE NO.

7-HW4-20.5

Lab Name: LAUCKS TESTING LABS

Contract:

Lab Code: LAUCKS Case No.:

SAS No.:

SDG No.: OPO4X

Matrix: (soil/water) SOIL

Lab Sample ID: 9605104-04

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0506012.D

Level: (low/med) LOW

pate Received: 05/04/96

\* Moisture: not dec.

Date Analyzed: 05/06/96

GC Column: D8-624 ID: 0.53(mm) Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

7011	011210	•	
uo /K	a) 116	/KG	0

		CONCENTRATION ONLIS.	_
CAS NO.	COMPOUND	(#a/r or ma/Ka) ne/K	G
74-87-3	Chloromethane		10¦ U
	Bromomethane_		10¦ U
	Vinyl Chlorid		10¦ U
75-00-3	Chloroethame_		10 U
	Methylene Chl	oride	2¦ JB
	Acetone		68 B
75-15-0	Carbon Disulf	ide	1; J
75-35-4	1.1-Dichloroe	t.hene	10¦ U
75-34-3	1,1-Dichloroe	thane	10¦ U
540-59-0	1,2-Dichloroe	thene (total)	10¦ U
67-66-3	Chloroform		10¦ U
107-06-2	1,2-Dichloroe	thane	10¦ U
78-93-3	2-Butanone		49!
71-55-6	1,1,1-Trichlo	roethane	10¦ U
56-23-5	Carbon Tetrac	hloride	10¦ U
75-27-4	Bromodichloro	methane	10¦ U
78-87-5	1,2-Dichlorop	ropane	10¦ U
10061-01-5	cis-1,3-Dichl	propropens	10¦ U
79-01-6	Trichloroethe	ne	10¦ U
124-48-1	Dibromochlorp	methane	10¦ U
79-00-5	1,1,2-Trichlo	roet hane	10¦ U
71-43-2	Benzene		10¦ U
10061-02-6	trans-1,3-pic	hlgrgpropene	10; U
75-25-2	Bromoform		10; U
108-10-1	4-Met hyl-2-Pe	ntangne	6¦ J
591-78-6	2-Hexanon		14
	Tetrachlorget	hene	10¦ ช
79-34-5	1,1,2,2-Tetra	chloroethane	10¦ U
108-88-3	Toluene		1¦ J
108-90-7	Chlorobenzane		10¦ U
100-41-4	Ethylbenzens	776	10¦ U
100-42-5	Styrene		10¦ U
1330-20-7	Xylene (total	) "["	10¦ U

VOLATILE ORGANICS ANALYSIS DATA SHEET

7-HW5-20.5

Lab Name: LAUCKS TESTING LABS

Contract:

SAMPLE NO.

Lab Code: LAUCKS Case No.:

SAS No.:

SDG No.: OPO4X

Matrix: (soil/water) SOIL

Lab Sample ID: 9605104-05

Sample wt/vol: 5.00 (g/mL) G

Lab File ID: F0506013.D

Level: (low/med) LOW

Nate Received: 05/04/96

\* Moisture: not dec.

Date Analyzed: 05/06/96

GC Column: D8-624 ID: 0.53(mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

\$pil Aliquot Volume: (uL)

	CONCENTRATION UNITS:			
CAS NO.	COMPOUND	(ug/L or ug/Kg)	JG/KG	Q
	Chloromethane_		10	
74-83-9	Bromomethane		10	
	Vinyl Chloride		10;	U
	Chloroethane		10;	_
75-09-2	Methylene Chlor	ide	2¦	JB
67-64-1	Acetone		20	В
75-15-0	Carbon Disulfic	le	10	U
75-35-4	1,1-Dichloroeth	nene	10;	Ü
75-34-3	1.1-Dichlorget	nane	10	U
540-59-0	1,2-Dichloroeth	nene (total)	10	U
67-66-3	Chloroform		10	U
	1,2-Dichloroeth	nane	10	U
	2-Butanone		2	J
	1,1,1-Trichlord	ethane	10	U
	Carbon Tetrachl		10	Ū
75-27-4	Bronodichlorome	thane	10	Ü
70-07-5	1,2-Dichloropro	Dane	10	Ū
10041-01-5	cis-1,3-Dichlor	odropene	10	-
	Trichloroethene		10	Ü
	Dibromochlorome		10	Ü
	1,1,2-Trichlord		10	-
71 42 2	Benzene	revilane	10:	Ü
100/1 00 /	trans-1,3-Dich	aveavenene.	10	Ü
10061-05-6	Bromoform	rol obeits	10	Ü
/5-25-2	4-Methy]-2-Pent		10	บ
108-10-1	2 Navasas	allone	10	U
	2-Hexangne		10;	U
12/-18-9	TetrachIproethe	1		-
	1,1,2,2+Tetrach	TOLOSCHAUS-	10;	U
	Toluene		10;	_
108-90-7	Chlorobenzene_		10;	U
100-41-4	Ethylbenzene		10	Ü
100-42-5	Styrene		10	Ū
1330-20-7	Xylene (total)		1	J

## APPENDIX K JP4/JP8 CHROMATOGRAMS

### Laucks

Great falls

Testing Laboratories, Inc.

940 South Harney St. . Seattle, WA 98108 (206) 767-5060 FAX (206) 767-5063 Free Parlack report

### **FAX Cover Sheet**

Company: Optech From: Kathy Kreps

To: Paula Watts

FAX Number: 423-483-2800

No. of Pages including cover

Date: 28 May 26

Following are facsimile sample results for the following:

JP4/JP8

Laucks Sample #	OPTECH Sample #	
		(Check here [] if VOCs only)
9605399-61	7-MWI-FP	(Check here [] if VOCs only)
		(Check here [] if VOCs only)
		(Check here [] if VOCs only)
		(Check here I) if VOCs only)
		(Check here @ if VOCs only)
		(Check here @ if VOCs only)

+ chromatograms of the sample, JP4 standard & JP8 Standard:

REPORT ON SAMPLE: 9605399-01A Client Sample ID: 7-MW1-FP

> Collection Date : 05/13/96 Date Received : 05/14/96

: N/A

Test Code

: M8015

Date Analyzed

Test Method

Prep Date

Extraction Method : SW 3510

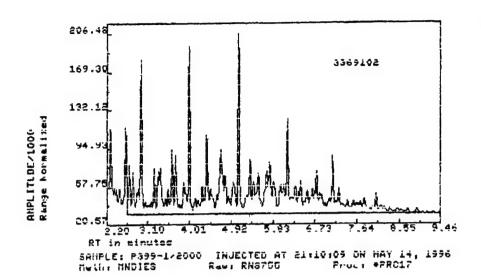
Analyte	Result (mg/L)	PQL (mq/L)
ATOMO NO STEND	970000 D	100000

Surrogate recovery report for sample 9605399-01A

Surrogate	Percent	Limi	ts:
	Recovery	Min.	Max.
2-Fluorobiphenyl	0 *	50	150

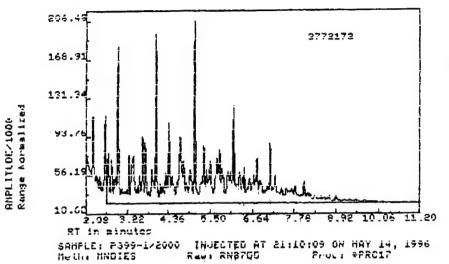
\* = Indicates that recovery is outside control limits

Comments: This sample has a JP4 pattern. Surrogate recovery could not be calculated due to dilution.



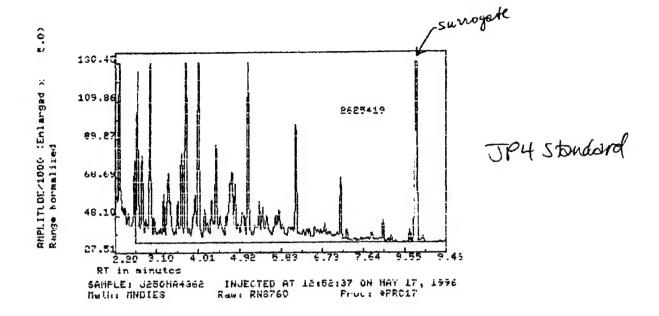
JPV roje

SAMPLE # 7-MW1-FP 9605399-Ø1 (JP4 Range)

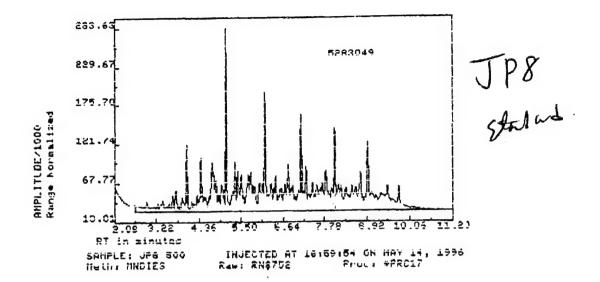


TP8 raje

SAMPLE # 7-MWI-FP 9605399-01 (JP8 RANGE)



JP4 STANDARD (JP4 RANGE)



JP8 STANDARD (JP8 RANGE)

### APPENDIX L

### FEDERAL DRINKING WATER STANDARDS

And

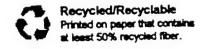
MONTANA NUMERIC WATER QUALITY STANDARDS

### DRINKING WATER REGULATIONS AND HEALTH ADVISORIES

by

Office of Water
U.S. Environmental Protection Agency
Washington, D.C.

February 1996



These regulations and health advisory tables are revised every 6 months by EPA's Office of Water. Although no permanent mailing list is kept, copies may be ordered free of charge from the:

SAFE DRINKING WATER HOTLINE

1-800-426-4791

Monday thru Friday, 9:00 AM to 5:30 PM EST.

Copies of the supportive technical documentation for the health advisories can be obtained for a fee from the:

Educational Resource Information Center (ERIC)

1929 Kenny Road

Columbus, OH 43210-1080

Telephone number (614) 292-6717

FAX (614) 292-0263

e-mail ERICSE@osu.edu

Payment by Purchase Order/check/Visa or Mastercard.

The Health Advisories available and their ERIC order numbers are included at the end of this publication. For further information regarding the Drinking Water Regulations and Health Advisories, call Barbara Corcoran in EPA's Office of Water at (202) 260-1332.

### LEGEND

### Abbreviations column descriptions are:

MCLG - Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.

MCL - Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.

RfD - Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.

Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

(\*) The codes for the Status Reg and Status HA columns are as follows:

F - final

D - draft

L - listed for regulation

P - proposed

T - tentative (not officially proposed)

Other codes found in the table include the following:

NA - not applicable

PS - performance standard 0.5 NTU - 1.0 NTU

TT - treatment technique

No more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples/month, no more than 1 sample per month may be positive.

\*\*\* - guidance

Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less-than-lifetime exposures in chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of up to 5 to 5000 when calculating a Lifetime HA.

The scheme for categorizing chemicals according to their carcinogenic potential is as follows: \*

### Group A: Human carcinogen

Sufficient evidence in epidemiologic studies to support causal association between exposure and cancer

### Group B: Probable human carcinogen

Limited evidence in epidemiologic studies (Group B1) and/or sufficient evidence from animal studies (Group B2)

### Group C: Possible human carcinogen

Limited evidence from animal studies and inadequate or no data in humans

### Group D: Not classifiable

Inadequate or no human and animal evidence of carcinogenicity

### Group E: No evidence of carcinogenicity for humans

No evidence of carcinogenicity in at least two adequate animal tests in different species or in adequate epidemiologic and animal studies

Drinking Water Health Advisories (HAs) are defined as follows:

### One-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to 5 consecutive days of exposure, with a margin of safety.

### Ten-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to 14 consecutive days of exposure, with a margin of safety.

### Long-term HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to approximately 7 years (10% of an individual's lifetime) of exposure, with a margin of safety.

\*EPA is in the process of revising the Cancer Guidelines.

### Lifetime HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety.

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<sup>\*\*</sup>NOTE: The HA value or the MCLG/MCL value for any two or more of these three chemicals should remain at 0.007 mg/L because of similar mode of action. \*\*\*PAH = Polyaromatic hydrocarbon \*See 40CFR Parts 141 and 142

NOTE: Anthracene and Benzo(g,h,l)perylens — not proposed in Phase V. NOTE: Changes from the last version are noted in Italic and Bold Face print.

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Current MCL. "A HA will not be developed due to insufficient data; a "Detabase Deficiency Report has been published.
 1994 Proposed rule for Disinfectants and Disinfection By-products: Total for all THMs combined cannot exceed the Disinfectants and Disinfection By-products: Total for all haloacetic acids cannot exceed 0.08 level. ""PAE = phthalate acid ester ""Draft HA updated for the Phase VIB regulation, which has been postponed. It includes the change of the cancer classification from D to C, thus justifying the use of an additional 10-fold saffy factor for the IMPtime HA.

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An HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.
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<sup>\*\*</sup> Under review. \*\* Carcinogenicity based on inhalation exposure. \*\*\*See 40CFR Parts 141 and 142

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<sup>\*</sup> Under raview. NOTE: Phenanthrens — not proposed. \*\* The Proposed. \*\* The RfD for metribution for dividing water. This \*\* The RfD for metribution was ravised Dec. 1994 to 0.013 mg/kg/day. Based on this ravised RfD the Lifetime HA would be 0.1 mg/l sesurning a 20% relative source confibution for dividing water. This information has not been incorporated in the Health Advisory document.

<sup>\*\*\*</sup> Tentative.

<sup>•</sup> If the cancer cleasification C is accepted, the Lifetime HA is 0.20; other wise it is 0.200 mg/L

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Under review.
 A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.
 Total for all haloscetic acids cannot exceed 0.08 mg/l level.

# Drinking Water Standards and Health Advisories

November 1995

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<sup>•</sup> Under raview.
• Copper — action level 1.3 mg/L, Leed — action level 0.015 mg/L
•• Copper — action level 1.3 mg/L, Leed — action level 0.015 mg/L
••• Measured as free chlorine.

¹ Regulated as chlorine.
² In food.
² In water.
⁴ Being remanded

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The state of the s	Des d				

Under raview. \*\* Guldance.
 +1991 Proposed National Primary Drinking Water Rule for Radionucildee

# Secondary Maximum Contaminant Levels

November 1995

Page 10

Sulfate F 250	4 H	Aluminum F Chloride Chloride	Chemicals F Bagants F Base F F F Base F F F F F F F F F F F F F F F
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anese	4	alvity F	ing agents F
anese			4

Status Codes: P -- proposed, F -- final

\* Under review.

## Microbiology

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Page 11	·L	F F	88	F
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	L L	L L	F	£.
November 1995	Cryptosporidium Glardfa lambifa	Legionella Standard Plate Count	Total Coliforms Turbidity	

Key: PS, TT, F, defined as previously stated.

Final for systems using surface water, also being considered for regulation under groundwater disinfection rule.

# CIRCULAR WQB-7

## MONTANA NUMERIC WATER QUALITY STANDARDS



Montana Department of Environmental Quality
Water Quality Division ••• Technical Studies & Special Projects Section
1400 Broadway, Room A-206
Post Office Box 200901
Helena, Montana 59620
TIELLEPHIONIE: (406) 444-2406 ••• IFAX: (406) 444-1374

December, 1995

December, 1995

that CIRCULAR WQB-7 will be added to, modified, and/or updated as additional or new information becomes available. Care should be exercised to ensure CIRCULAR WQB-7, Montana Numerical Water Quality Standards, is a compilation of the most recent Standards available for both Surface Waters and Ground Waters. Reference sources used to compile CIRCULAR WQB-7 are the Environmental Protection Agency (EPA) Region VIII's Clean Water Act Section 304(a) Criteria Chart, dated 07/01/1993, and Standards established as drinking water maximum contaminant levels (MCL's). It is anticipated that the most recent version (by date) is used as a reference.

CIRCULAR WQB-7 is a complex document. Close attention must be paid to the frequent use of 'detailed notes of explanation'. They are used in both the table headings and individual line items, many times, both. Detailed notes of explanation follow the table portion of CIRCULAR WQB-7 and are found in the format of (n) where n is a number.

CIRCULAR WQB-7 uses the more restrictive value of either the 304(a) criteria or the drinking water MCL for Human Health Standards, whenever required, in order to be able to fully protect the concept of 'multi-use' of Montana's waters. For instance, if the human-health Standard for a particular pollutant has been established at 1,200 µg/L (micro-grams per Liter) and the same pollutant has an organoleptic (taste and/or odor) Standard established at 20 µg/L, then CIRCULAR WOB-7 would have the Standard set at the more limiting value of 20 µg/L. In similiar manner, whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard.

degredation rules ARM 16.20.701 et seq to determine and evaluate degradation. Standards for 'Harmful' parameters will be used as nondegredation criteria for both surface waters and ground waters. For a given pollutant, the Human Health Standard is the same for both surface and ground water but the analysis CIRCULAR WQB-7 sets Standards for surface and ground waters. In addition WQB-7 lists values which are to be used in conjunction with the nonmethod differs. Except where noted, the surface water analysis method is always 'total-recoverable' while the analysis method used for ground water will be 'dissolved',

Special attention should be paid to the pollutants/conditions such as ammonia, hardness, and oxygen as the Standards are set over a range of values, or are computed using a complex formula, or depend upon special circumstances.

Alkalinity, chloride, hardness, sediment, sulfate, and total dissolved solids have 'Narrative Standards' and are referenced back to the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq for further details and explanation.

The Standards for fecal coliform, color, dissolved gases, odor, pH, and temperature are dependent upon the water-use classifications as specified in ARM, Title 16, Chapter 20 - Water Quality, Sub-Chapter 6, SURFACE WATER QUALITY STANDARDS.

December, 1995

Page 2 of 39

December, 1995

December, 1995 CIRCULAR WQB-7		TANA NUMER	MONTANA NUMERIC WATER QUALITY STANDARDS	ALITY STANI	OARDS (6)		Page	Page 3 of 39 pages
Except where indicated, values are litted as micro-grams-per-liter (gg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been ad	apted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided	ailed note of explan	tion is provided.
Pollistent	CASRN, NIOSH and		Aquatic Life Standards (16)	indards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Mandards (17)	Trigger Value (22)	Reporting Value (19)
Acceaphthene  \$	83329 or 83-32-9 NIOSH: AB 1255500 SAX: AAE750	Hermful		ı	242	20	V/V	01
Acenaphthylene (PAB)  ## —  Cyclopena(De)Naphthalene	208968 or 208-96-8 NIOSH: AB 1254000 SAX: AAF500	Toxin	1		30	- Transfer of the State of the	2.3	10
Acrolein  # —  # Biocide # Crolean # Aqualin # Aqualine # Propenal # SHA 00701  # 2-propenal # Acraldshyde # Acryleidshyde # Ethylene Aldshyde	107028 or 107-02-8 NIOSH: AS 1050000 SAX: ADRO00	Toxin		ı	215	320	0.7	20
Acrytamide  ## 2-Propenamide  # Propenamide # Acrylic Amide # Ethylenecarboxamide # RCRA Waste Number  U007	79061 or 79-06-1 NIOSH: AS 3325000 SAX: ADS250	Carcinogen	1	ı	ı	0.08	N/A	ı
Acrylondtrile  # —  # Marylondtrile  # Ventox # ENT 54 # TL 314 # Fumigrain # Carbacryl # Cyanochylene  # Vinyl cyanide # Propenentirile # 2-Propenentirile # Acrylonitrile monomer  # RCRA Wate Number U009	107131 or 107-13-1 NIOSH: AT 525000 SAX: ADX500	Carcinogen	-	I	30	0.59	N/A	50
Alachlor  #	15972608 or 15972-60-8 NIOSH: AE 1225000 SAX: CFX000	Carcinogen		1	Ī		N/A	0.4
Addicarb ## Tenit ## Tenit ## Tenit   Anbush # OMS 771 # Tenit G 10 # Aldecarb # Carbanyl ## SHA 699301 # Carbanolate # Sulfone Aldoxycarb # Union Carbide 21149 ## RCRA Wates Funder P070 # Propanal, 2-Methyl-2-(Methylthio)-, O- [(Methylamino)Carbonyl]Oxine	116063 or 116-06-3 NIOSH: UE 2275000 SAX: CBM500	Toxin		1	-	-	-	1
Aldicarb Salfone  14 Aldoxycarb  15 Andoxycarb  16 Sulfocarb 1 SHA 110801 1 Propionaldebyde, 2-Methyl-2- (Acthylanforny)- O-Methylcarbomoyl)Oxime 1 2-Methyl-2-(Methylralfony)-Propanal  O-((Acthylantino)Carbonyl)Oxime	1646884 or 1646-88-4 NIOSH: UE 2080000 SAX: AFKO00	Toxin	-	· <b>1</b>	*		-	
Aldicarb Salfonide	1646873 or 1646-87-3 NIOSH: — SAX: —	Toxin	1	1		4	-	1

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER OUALITY STANDARDS	TANA NUME	RIC WATER O	UALITY STAN	DARDS (6)		d	1.5.20
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	andard has not been	adapted or information	is currently unavailable		A '(r)' indicates the desired	ga J	age + of 32 pages
	CASRN MIOSH and		0 41 17			A (u) muxates that a der	ance note or expus	anon is provided.
Pollutant	SAX Numbers		Aquatoc Life Standards (16)	Candards (16)	Bioconcentration	Himon Health Condords	Trineer Velue	Required
Lieurant / Chemical Compound or Condition	(25) (25) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	(1)	(22)	Value (19)
4 Adras 4 Altox 2 Drinox 4 Aldrex 2 Aldrite 2 Seedrin 3 Octalene 5 SHA 045101 2 RCRA Waste Number P004 3 Hexachlorohexahydro-endo-exo-Dimethanonaphthalene 2 1,2,3,4,10,10 Hexachloron-1,4,4,5,3,8,3,8,4,10,10 Hexachloron-1,4,4,3,8,3,8,4,10,10 Hexachloron-1,4,4,4,5,8,8,4,10,10 Hexachloron-1,4,4,5,8,8,4,10,10 Hexachloron-1,4,4,5,8,10,10 Hexachloron-1,4,4,5,8,10,10 Hexachloron-1,4,4,5,8,10,10 Hexachloron-1,4,4,5,8,10,10 Hexachloron-1,4,4,5,8,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10,10 Hexachloron-1,4,4,5,10 Hexachloron-1,4,5,10 Hexachloron-1,4,5,10 Hexachloron-1,4,5,10 Hexachloron-1,4,5,10 Hexa	309002 or 309-00-2 NIOSH: IO 2100000 SAX: AFK250	Carcinogen	51	I	4,670	0.0013	<b>4</b> X	0.2
Abalmity, total, as CaCO,	471341 or 471-34-1 NIOSH: — SAX: —	Narrative (15)	-	ı		·	1	2,000
Alpha Emitters  # —  Gross Alpha # Adjusted Gross Alpha	Multiple	Carcinogen / Radioactive		1		150 pico-curies/liter	N/A	
Aluminum, pH 6.5 to 9.0 only (9) (6) §§ Al	7429905 or 7429-90-5 NIOSH: BD 0330000 SAX: AGX000	Toxin	750	87			30	100
Ammonia (total ammonia mitrogen (NH3-N plus NH4-N)] as mg/l N  \$ Ammonia Anhydrous \$ Anhydrous Ammonia \$ Spirit of Hartshorn	7664417 or 7664-41-7 NIOSH: BO 0875000 SAX: AMY500	Toxin	(7)(f)	(7)KB			10	S
Authraceae (PAH)  14 Perenaphthalene  1 Green Oil   Anthracin   Tetra Olive N2G	120127 or 120-12-7 NIOSH: CA 9350000 SAX: APG500	Toxin			30	6,600	0.04	0.2
Autúmony (?)  § Sb  Antimony Black   Antimony Regulus   C.I. 77050   Stibium	7440360 or 7440-36-0 NIOSH: CC 4025000 SAX: AQB750	Toxin		I	-	9	0.4	3
Arcelor 1016  # PCB 1016  Arcelor 1016	12674112 or 12674-11-2 NIOSH: — SAX: —	Carcinogen	ı	0.014	31,200	0.00044	N/A	_
Aroclor 1221  §§ PCB 1221  § PCB-1221  § PCB-1221		Carcinogen		0.014	31,200	0.00044	N/A	15
Arcelor 1232  \$ # PCB 1232	11141165 or 11141-16-5 NIOSH: TQ 1354000 SAX: PJM250	Carcinogen		0.014	31,200	0.00044	N/A	_

Pollutant  Element / Chemical Compound or Condition  1142  1142  1142  1142  1142  1142  1143  1143  1143  1143  1143  1143  1143  1143  1144  1148  1148  1148  1148  1148  1148  1148  1148  1154  1	December, 1995 CIRCULA	CIRCULAR WQB-7, MON	TANA NUMER	UC WATER O	', MONTANA NUMERIC WATER QUALITY STANDARDS	ARDS (6)		Page	Page 5 of 39 pages
CASRN, NIOSH and SAX Numbers         Aquatic Life Standards (10)           53469219 or Category (1) (2)         Acute (3)         Chrouic (4)           53469219 or Category (1) (2)         Acute (3)         Chrouic (4)           1267229 or 12672-29-6 Carcinogen         —         0.014           SAX: PIM500         SAX: PIM500         —         —           SAX: PIM500         SAX: PIM	Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A'-' indicates that a Sta	ndard has not been ad	lapted or information i	s currently unavailable	A December 1	A '(n)' indicates that a detailed note of explanation is provided.	siled note of explan	tion is provided.
## Chronic (a) Chronic (b)   Chronic (c)   ## Chronic (c) Chronic (c)   Chronic (c)   ## Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c) Chronic (c)   ## Chronic (c) Chronic (c) Chronic (c) Chronic (c)   ## Chronic (c) Chronic (	P. W. Water	CASRN, NIOSH and		Aquatic Life Si	tandards (16)		2 27 11		Required
\$3469219 or \$3469-21-9 Carcinogen — 0.014  NIOSH: 135000  SAX: PIM500  12672296 or 12672-29-6 Carcinogen — 0.014  NIOSH: 170 135000  SAX: PIM750  11097691 or 11097-69-1 Carcinogen — 0.014  NIOSH: 170 1362000  SAX: PIM200  SAX:	Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Mandards (17)	ingger value (22)	Value (19)
105763: TO 1358000   1057673.94   Carcinogen   105767.94   Carcinogen	Arocher 1242 §§ PCB 1242 § PCB-1242 § Arochlor 1242 § Chlorodiphenyl (42.% Cl) § Polychlorinated Biphenyl (Aroclor 1242)		Carcinogen	1	0.014	31,200	0.00044	N/A	-
11097691 or 11097-69-1   Carcinogen	Aroclor 1248 §§ PCB 1248 § PCB-1248 § Arochior 1248 § Chlorodipheny! (48 % Cl) § Polychiorinated Bipheny! (Aroclor 1248)	12672296 or NIOSH: TQ SAX: PIM75	. 1		0.014	31,200	0.00044	N/A	_
11096825 or 11096-82-5   Carcinogen     0.014     NIOSH: TQ 1362000   37324-23-5   Carcinogen     0.014     NIOSH: TQ 1364000   SAX: PIN500   Carcinogen     0.014     NIOSH: TQ 1366000   Carcinogen     0.014     NIOSH: TQ 1368000   Carcinogen     0.014     NIOSH: TQ 1368000   Carcinogen     0.014     NIOSH: TQ 1310000   SAX: PIOZ90   SAX: PIOZ90   SAX: PIOZ90     SAX: PIOZ90   37353-63-2   Carcinogen     0.014     NIOSH: TQ 1373000   SAX: PIOZ90   SAX: PIOZ90   Carcinogen     0.014     NIOSH: TQ 1373000   SAX: PIOZ90   Carcinogen     0.014     NIOSH: TQ 1373000   SAX: PIOZ90   Carcinogen     0.014     NIOSH: TQ 1374000   SAX: PIOZ90   Carcinogen     0.014     NIOSH: TQ 1374000   Carcinogen     0.014	Arecler 1254 § PCB 1254 § PCB-1254 § Arechlor 1254 § Chlorodiphenyl (54% Cl) § Polychlorinated Biphenyl (Arecler 1254) § NCI C02664	NIO97691 or NIOSH: TQ SAX: PIN00		444	0.014	31,200	0.00044	N/A	1
31324235 or 31324-23-5 Carcinogen — 0.014 NIOSH: TQ 1364000 SAX: PINSO0 SAX: PINSO0 SAX: PINTSO 31324246 Carcinogen — 0.014 NIOSH: TQ 1368000 SAX: PIOSO0 SAX: PIO	Arector 1266  §§ PCB 1266  § PCB-1266 § Clophen A60 § Arechlor 1260 § Phenocior DP6 § Chlorodiphenyl (60% CI) § Polychlorinated Biphenyl (Arector 1260)	11096825 or 11096-82-5 NIOSH: TQ 1362000 SAX: PINZ50	Carcinogen	1	0.014	31,200	0.00044	N/A	1
11100144 or 11100-144   Carcinogen	Araciar 1262  14 PCB 1262  5 PCB-1262 5 Arachior 1262 5 Chloradiphenyl (62% Cl) 7 Polyahlorinated Biphenyl (Araciar 1262)		Carcinogen		0.014	31,200	0.00044	V/A	
37324246 or 37324-24-6 Carcinogen — 0.014  NIOSH: TQ 1368000 S.AX: P100000 S.AX: P10250	Arecher 1268  § PCB 1266  § PCB-1268 § Arochlor 1268 § Chlorodiphenyl (68% Cl) § Polychlorinated Biphenyl (Arochor 1268)		Carcinogen		0.014	31,200	0.00044	N/A	-
11120299 or 11120-29-9   Carcinogen     0.014     NIOSH: TQ 1370000   SAX: P10250   SAX: P1025	Areclar 2565  # PCB 2565  # PCB-2565 # Arochlor 2565 # Polychlorinated Biphenyl (Aroclor 2565)	37324246 or 37324-24-6 NIOSH: TQ 1368000 SAX: PIO000	Carcinogen	_	0.014	31,200	0.00044	N/A	-
37353632 or 37353-63-2 Carcinogen — 0.014  NIOSH: TQ 137200  SAX: PIOSO0 12737-87-0 Carcinogen — 0.014  NIOSH: TQ 1374000	Arechor 4465  §§ PCB 4465  § PCB 4465  § PCB 4465 § Arochlor 4465 § Polychlorinsted Biphenyl (Aroclor 4465)	11120299 or 11120-29-9 NIOSH: TQ 1370000 SAX: PIO250	Carcinogen		0.014	31,200	0.00044	N/A	-
12737870 or 12737-87-0 Carcinogen — 0.014 NIOSH: TQ 1374000	Polychlorinated Biphenyl (Kanechlor 300)  ## —  # Kanechlor 300	37353632 or 37353-63-2 NIOSH: TQ 1372000 SAX: PIO500	Carcinogen	_	0.014	31,200	0.00044	N/A	-
nechlor 400 § KC-400	Polychlorinaried Biphenyl (Kanechlor 400)  ##  # Kanechlor 400 # KC-400	12737870 or 12737-87-0 NIOSH: TQ 1374000 SAX: PIO750		_	0.014	31,200	0.00044	N/A	<u>-</u>
Polychlorinated Bipheayl (Kanechlor 500)   37317412 or 37317412   Carcinogen	Polychlorinated Biphenyl (Kanechlor 500)  #	37317412 or 37317-41-2 NIOSH: TQ 1376000 SAX: PIP000		ŧ	0.014	31,200	0.00044	V/V	-

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER OUALITY STANDARDS	TANA NUME	RIC WATER O	UALITY STAN	DARDS (6)		Page	Page 6 of 30
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '-, indicates that a Standard has not been adapted or information is currently unavailable,	andard has not been a	adapted or information	is currently unavailable		A '(n)' indicates that a descited note of erribmation is marrial.	age ,	o of 32 pages
	CASRN, NIOSH and		Aquatic Life	Aquatic Life Standards (16)				Required
Foundant Element / Chemical Compound or Condition	SAX Numbers (2) (20) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration	Human Health Standards	Trigger Value	Reporting
Polychlorinated Bipbenyls, mixed  §§ PCB*s  § Axoclor # Chlopten # Chloraxtol # Chlorinated Biphenyl # Chlorinated Diphenyl  † Chlorinated Diphenylene # Chloro Biphenyl # Chloro-1,-Biphenyl # Clophen  § Dykanol # Fencior # Inerteen # Kanechlor # Montar # Noffsmol # PCB  (DOT) # Phenoshor # Polychlorobiphenyl # Pyralene # Pyranol # Samotherm  § Sovol # Therminol FR-1	SAX SAX	Carcinogen	ı	0.014	31,200	0.00044	N/A	1 A BOOK (15)
Arsenic, morganic (9)  §§ Asenicals § Arsenic-75 § Arsenic Black § Colloidal Arsenic § Grey Arsenic § Metallic Arsenic	7440382 or 7440-38-2 NIOSH: CG 0525000 SAX: ARA750	Carcinogen	360	190	4	8-	N/A	3
Asbestos, Chrysotile  # # 7-45 Aubestos # Aubestos (ACGIH) # Asbestos, White Dot # Avibest C # 7-45 Aubestos # Calidris RG 144 # Calidris RG 600 # Cassir AK # Chrysotile Abbestos # Chrysotile (DOT) # Hooker Number   Chrysotile Abbestos # Metaxite # NCI C61223A # Plastibest 20 # Serpentine # Serpentine Chrysotile # Sylodex # White Aubestos	12001295 or 12001-29-5 NIOSH: CI 6478500 SAX: ARM268	Carcinogen		ı		700,000 fiberullier	<b>V/V</b> .	
Asbestos, Actinolite    Asbestos (ACGIH)   Actinolite Asbestos	77536664 or 77536-66-4 NIOSH: CI 6476000 SAX: ARMZ60	Carcinogen	ı	1		700,000 fibers/liter	N/A	
Asbestos, Amosite	12172735 or 12172-73-5 NIOSH: CI 6477000 SAX: ARM262	Carcinogen	1	1		700,000 fibers/liter	N/A	
Asbestos, Anthophylite  # # Anthophylite	77536675 or 77536-67-5 NIOSH: CI 6478000 SAX: ARM264	Carcinogen	1			700,000 fiberaliter	N/A	
Asbestos  ## Amienthus # Amouite (Obs.) # Amphibole # Asbestos Fiber # Fibrous Grunerite # NCI CO8991 # Serpentine	1332214 or 1332-21-4 NIOSH: CI 6475000 SAX: ARM 250	Carcinogen	ı	ı	1	700,000 fibera/liter	N/A	
Asbestos, Crecidolite  18 —  1 Amorphous Crecidolite Asbestos (ACGIH)   Blue Asbestos (DOT)  1 Crecidolite Asbestos   NCI COSOO7   Crecidolite (DOT)   Fibrous Crecidolite Asbestos	12001284 or 12001-28-4 NIOSH: CI 6479000 SAX: ARM275	Carcinogen	!	1		700,000 fiberuliter	V/V	ı
Asbestos, Tremolite  14 —  Asbestos (ACGIH)   Fibrous Tremolite   NCI C08991   Tremolite Asbestos	77536686 or 77536-68-6 NIOSH: 6560000 SAX: ARM280	Carcinogen		1	1	700,000 fibers/liter	N/A	

December, 1995 CIRCUL	CIRCULAR WQB-7, MON	TANA NUME	7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	JALITY STANI	DARDS (6)		Page	Page 7 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (#g/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	andard has not been a	dapted or information is	currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	iled note of explan	tion is provided.
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)	11			Required
Flement / Chemical Compound or Condition	CD (20) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting Value (19)
Atrache    Actual	SAX:	Toxin		1		£	0.1	90
Barisma (7) ii Ba	7440393 or 7440-39-3 NIOSH: CA 8370000 SAX: BAH250	Toxin		1		1,000	2	2
Benzene #	71432 or 71-43-2 NIOSH: CY 1400000 SAX: BBL250	Carcinogen	T-0-1		5.2	80	NIA	0.5
Bezzidine  \$ p.p. Bianiline \$ 4,4'-Bianiline \$ 4,4'-Biphenyldiamine \$ p.p'-Diaminobiphenyl  \$ 4,4'-Diaminodiphenyl \$ RCRA Weste Number U021 \$ 4,4'-Biphenyleacdiamine  \$ 4,4'-Diphenyleacdiamine \$ Biphenyl, 4,4'-Diamino \$ 4,4'-Diamino 1,1'-Biphenyl  \$ (1,1'-Biphenyl)-4,4'-Diamine \$ NCI C03361	92875 or 92-87-5 NIOSH: DC 9625000 SAX: BBX000	Carcinogen	1	-	87.5	0.0012		20
Bezi[ajanthracene (PAH)  # —  # Tetraplene # Bezzanthracene # Bezzoanthracene # Naphthamthracene  # 1.2-Bezzanthracene # Bezzo(a)Anthracene # Bezzo[a]Anthracene  # 1.2-Bezzanthracene # Bezzo(b)Phenanthrane # 1.2-Bezzoanthracene  # Bezzanthracene  # RCRA Waste Number U018		Carcinogen	1	1	30	0.044	V X	6.25
Bezzo[D]Fluoranthene (PAH)  § 18—  § 18—  § 2.3-Berzo(o)Fluoranthene § Berzo(e)Fluoranthene § Berzo[e]Fluoranthene  § 2.3-Berzfluoranthene § 3.4-Berzfluoranthene § 3.4-Berzofluoranthene  § 2.3-Berzofluoranthene § 2.3-Berzofluoranthene § Berzic(e)Acephenanthrylene  § 3.4-Berzic(e)Acephenanthrylene	205992 or 205-99-2 NIOSH: CU 140000 SAX: BAW250	Carcinogen	ı	. 1	30	0.044	V/V	0.25

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December, 1995 CIRCUL	CIRCULAR WQB-7, MON	TANA NUME	RIC WATER Q	, MONTANA NUMERIC WATER QUALITY STANDARDS	DARDS (6)		Page	Page 8 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been a	dapted or information	s currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	ailed note of explan	tion is provided.
	CASRN, NIOSH and		Aquatic Life Standards (16)	landards (16)	1			Required
rountant Element / Chemical Compound or Condition	25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Realth Standards (17)	Trigger Value (22)	Reporting Value (19)
Berzofk[Fluorauthene (PAH)  §	207089 or 207-08-9 NIOSH: DF 6350000 SAX: BCJ750	Carcinogen	I	1		0.044	N/A	0.25
Bezzo(g.h.)perylene (PAB) §§ 1,12-Bezzoperylene § Bezzo(ghi)Perylene	191242 or 191-24-2 NIOSH: DI 6200500 SAX: BCR000	Toxin		ı	30		0.076	01
Benzo[a]Pyrene (PAH)  § 14—  § 18-  § 19-   § 19-   § 19-   § 19-   § 19-   § 19-   § 19-   § 19-   § 19-   § 19-	50328 or 50-32-8 NIOSH: DJ 3675000 SAX: BCS750	Carcinogen		1	30	0.2	NA	0.2
Beryllium (9) §§ Be § Beryllium-9 § Glucinum § RCRA Weste Number P015	7440417 or 7440-41-7 NIOSH: DS 1750000 SAX: BF0750	Carcinogen	I	ı	19	40	N/A	1 ·
Beta-Chloronaphthalene  \$ 2-Chloronaphthalene  \$ A-Chloronaphthalene  \$ B-Chloronaphthalene	91587 or 91-58-7 NIOSH: QJ 2275000 SAX: CJA000	Toxin	· ·	-	202	1,700	0.94	10
Bela Emitters (19) ## # Gross Beta	12587472 or 12587-47-2 NIOSH: SAX:	Carcinogen / Radioactive	•		_	40 mrem ede/yr.	N/A	-
Bis(J-Chloroethory)Methane  11 1 Bis(J-Chloroethy)Formal	111911 or 111-91-1 NIOSH: PA 3675000 SAX: BID750	Toxin	1	1	0.64	E S	0.5	1
Beit-Chloroisoprogyl) Ether  1 ———————————————————————————————————	108601 or 108-60-1 NIOSH: KN 175000 SAX: BIZ50	Toxin	·	1	2.47	1,400	8.0	
Bei(Chlorochy))Ether  18-CEE † DICEE ‡ Clorex ‡ Chlorex § Chlorochy] Ether ‡ Dichlorochy] Ether  19-CEE † DICEE † Clorex † Chlorex § Chlorochy] Ether  19-Chlorochy) Caide † RCRA Wate Number UU25 § Bis(Chlorochy)] Ether  19-Chlorochy)] Ether ‡ Bis (Chlorochy) Ether † Bis(2-Chlorochy)] Ether  19-Bis(2-Chlorochy)] Ether † Bis. Dichlorochy] Ether  19-Bis(2-Chlorochy)] Ether † Li1-Chlorochy Ether  10-Chlorochy) Ether † Li1-Chlorochy Ether  10-Chlorochy Ether † Li1-Chlorochy Ether  10-Chlorochy Ether † Li1-Chlorochy Ether  10-Chlorochy Ether  10-	111444 or 111 444 NIOSH: KN 0875000 r SAX: BIC750	Carcinogen		1	6.9	0.31	N/A	01

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	TANA NUME	RIC WATER OF	JALITY STANI	DARDS (6)		Pag	Page 9 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	mdard has not been	sdapted or information is	s currently unavailable		A '(n)' indicates that a detailed note of explanation is provided.	tailed note of expla	ation is provided
Pollutan	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)		3		Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Standards (17)	Trigger Value	Reporting Value (19)
Bis(Chloromethy)Ether  # —  # ECME	\$42881 or \$42-88-1 NIOSH: 1575000 \$AX: BIK000	Carcinogen	-	I	0.63	9100'0	N/A	10
Bromodichloromethane (RIM)  ## # BDCM # NCI C55243 # Dichlorobromomethane # Methane, bromodichloro- # Dichloromonobromomethane # Monobromodichloromethane	75274 or 75-274 NIOSH: PA 5310000 SAX: BND500	Carcinogen	1		3.75	5.6	V/N	0.5
p-Bromodiphenyl Ether #	101553 or 101-55-3 NIOSH: — SAX: —	Toxin with BCF > 300	-		1,640	I	N/A	01
Bromoform (BM)  §§ Tribromomethane  § NCI C55130 § Methane, Tribromo- § Methanyl Tribromide § RCRA Waste  Number UZ25	75252 or 75-25-2 NIOSH: PB 5600000 SAX: BNL000	Carcinogen	I		3.75	43	N/A	0.5
Bromomethane (HM)  ## Methyl Bromide  # EDCO # Celfume # Dowfume # Methogas # SHA 053201 # Brom-O-Sol  # Brom-O-Gas # Tern-O-Gas # Halon 1001 # Tern-O-Cide # Bromo-O-Gas  # Bromo Methol # Methyl Bromide # Methyl Bromide # Methane, Bromo-  # Monobromomethane # RCRA Waste Number U029	74839 or 74-83-9 NIOSH: PA 4900000 SAX: BNM500	Toxin	I	1	3.75	<b>\$</b> 7	0.11	0.5
Buryl Benzyl Puthalate  § Buryl Benzyl Puthalate  § Buryl Buryl Puthalate  § Buryl Penzylphthalate  § Buryl Puthalate  § Benzyl Buryl Futhalate  § Buryl Puthalate  §		Yoxin with BCF >300	· †		414	3,000	N/A	01
Cadmium (m) ## Cd # C.I. 77150 # Cottoidal Cadmium	7440439 or 7440-43-9 NIOSH: EU 9800000 SAX: CAD000	Toxin	3.9 @ 100 mg/l hardness (12)	1.1 @ 100 mg/l hardness (12)	99	\$	0.1	0.1
Carbefurns  # **    Yalox   Euridan   Fundan   Cunterr   Funcarb   SHA 090601   Niagra   102.2   2,2-Dimethyl-7-Counaranyl N-Methylearbanate   2,2-Dimethyl-2,3-Dihydro-1-2-Eurofunnyl N-Methylearbanate   Carbanic Acid, Methyl-, 2,3-Dihydro-2,2-Dimethyl-7-Berrofunnyl Ester	1563662 or 1563-66-2 NIOSH: FB 945000 SAX: FPE000	Toxin	1	-	1	<b>Q</b>		1

December, 1995 CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	AR WQB-7, MON	TANA NUME	SIC WATER OF	JALITY STANI	DARDS (6)		Page 1	Page 10 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently margilable.	andard has not been a	dapted or information is	currently unavailable		A '(n)' indicates that a detailed note of explanation is provided.	niled note of explans	tion is provided.
Bolledone	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	25, 26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Ruman Health Standards	Trigger Value	Reporting Value (19)
Carbon Tetrachloride  \$1  \$ R. In	56235 or 56-23-5 NIOSH: FG 490000 SAX: CBY000	Carcinogen	1	I	18.75	2.5	N/A	0.5
Cesium (19)	Ceaium 134 13967709 or 13967-70-9 NIOSH: — SAX: —	Carcinogen / Radioactive		1	I .	40 mrem ede/yr	N/A	
Cesium (10) H Cs	Cesium 137 10045973 or 10045-97-3 NIOSH: — SAX: —	Carcinogen / Radioactive	I	ı	ı	40 mrem ede/yr	V/A	
Cesium (10) \$1 Cs	Cesium 137 12587472 or 12587-47-2 NIOSH: — SAX: —	Carcinogen / Radioactive		t	I	40 mrem ede/yr	Y/X	
Cesium (10) }} Cs	Cesium 144  NIOSH: — SAX: —	Carcinogen / Radioactive	I		I	40 mrem ede/yr	N/A	1
Chlordane  ## # Belt # Niran # Dowchlor # Chlortox # Chlordan # Clordano # Chlor Kil # Toxichlor # Ceta-Klor # Ortho-Klor # SHA 058201 # Gold Crest C-100 # Chlordane, Technical # RCRA Warte Number U036 # Octachloro-4,7- Methanohydroindane # Octachlorodihydrodicyclopentadiene # 1,2,4,5,6,7,8,6 Cetachloro-3a,4,7,7a-Hexahydro # Octachloro-4,7-Methanotetrahydroindane-4,7- Methylere Indane # 4,7-Methanoindan, 1,2,4,5,6,7,8,9-Octachloro-3a,4,7,7a-tetrahydro- # 1,2,4,5,6,7,8,0-Cutachloro-2,3,3a,4,7,7a-Hexahydro-7,7-Methano-Indene # 4,7- Methano-1H-Indene 1,2,4,5,6,7,8,#-Octachloro-2,3,3a,4,7,7a-Hexahydro-	57749 or 57-74-9 NIOSH: PB 9800000 SAX: CDR750	Carcinogen	1.2	0.0043	14,100	0.0057	NIA	0.4
alpha-Chlordane # 5 - Chlordan # cis-Chlordane # \accis)-Chlordane # Chlordane cis-		Carcinogen .	1.2	0.0043	14,100	0.0057	N/A	0.4
gamme-Chlordane §§ — § Chlordane, beta-komer	5103742 or 5103-74-2 NIOSH: — SAX: —	Carcinogen	1.2	0.0043	14,100	0.0057	N/A	0.4

December, 1995 CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUMEF	UC WATER OF	JALITY STAND	(4) (ARDS (6)		Page 1	Page 11 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '-' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been ac	lapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided.	ailed note of explan	tion is provided.
B. Ch.	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)		The State of the S	Trioner Volue	Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (I) (2)	Acute (3)	Chronic (4)	Factor (BCF) (9)	(17)	(22)	Value (19)
trans-Nonachlor (Chlordane component)  ## —  Chlordane, trans-leomer	-80-5	Carcinogen	1.2	0.0043		0.0057	V/V	0.4
Chloride H	16887006 or 16887-00-6 NIOSH: SAX:	Nameive (16)	860,000	230,000		_	N/A	1,000
Chlorine, total residual  \$1 CT  Bertholite   Chlorine, molecular   Molecular Chlorine	7782505 or 7782-50-5 NIOSH: FO 2100000 SAX: CDV750	Toxin	61	11		1	100	ł
p-Chloro-m-Cresol #1— # PCMC # Parol # Apial # Batrol # Batrolan # Ottafact # Raschit # Rasen-Anicon # Permetol # Candasepte # Chlorocresol # Preventol CMK # RCRA Weste Number U039 # Perchlorometra Cresol # 4-Chloro-3-methylphenol # 2-Chloro-Hydroxytoluene # Phenol, 4-Chloro-3-methyl- # Chlorophenol, 4-, methyl, 3-	59507 or 59-50-7 NIOSH: GO 7100000 SAX: CFE250	Hermful	I	Į.	1	3,000	N/A	20
Chlorobenzene  # Monochlorobenzene  # MCB # Chlorobenzon # Chlorbenzene # Phenyl Chloride # Benzene Chloride  # Benzene, Chloro- # Monochlorbenzene # RCRA Waste Number U037  # NCI CS4886	108907 or 108-90-7 NIOSH: CZ 0175000 SAX: BBM750	Harmful	1	1	10.3		N/A	0.5
2-Chloroethyl Vinyl Ether ## — # C-Chloroethoxy)Ethene # RCRA Waste Number U042 # Vinyl 6-Chloroethyl Ether # Vinyl 2-Chloroethyl Ether	110758 or 110-75-8 NIOSH: KN 6300000 SAX: CHZS0	Carcinogen	1	1	0.557	·	V/N	I
Chloreform (RM) # Trichloromethane # Trichloromethane # Trichloromethane # Trichloromethane # Freen 20 # Trichloroform # R-20 Refrigerant # Methenyl Chloride # Formyl Trichloride # Methyl Trichloride # Methane Trichloride # Methane Trichlorom # Methenyl Trichloride # RCRA Ware Number 1044 # NCI CO2686	67663 or 67-66-3 NIOSH: FS 9100000 SAX: CHJ500	Carcinogen	-	l	3.75	57	N/A	0.5
Chlorochane  # Activitie   Activitie Chloridum   Anodynon   Chelen   Chlorethyl   Chloridum   Activitie   Editorediane   Chloryl   Chloryl Anothetic   Edityl Chloride   Ether Chloride   Ether Chloride   Ether Chloride   Widnesselloric Ether   Monochlorethyl   M	75003 or 75-00-3 NIOSH: KH 752500 SAX: EHH000	Toxin	1	1	ı	1	0.52	1
2-Chlorophenol  #  Chlorophenol   Chlorophenol, 2-   Phenol, 2-Chloro-   Phenol, o-Chloro-   RCRA Warte Number UG48	95578 or 95-57-8 NIOSH: SK 2625000 SAX: CJR250	Harmful	1	-	134	0.1	<b>V</b> /V	01

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Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been a	dapted or information is	currently unavailable		A '(n)' indicates that a detailed note of explanation is provided.	ailed note of explan	tion is provided.
	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Formant Element / Chemical Compound or Condition	SAX Numbers (25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting Value (19)
4-Chlorophenyl Phenyl Ether	7005723 or 7005-72-3 NIOSH: — SAX: —	Toxin with BCF >300	144		1,200		N/A	
Chlorpyrifos  # # Ehlin # Brodan # Endex # Durban # Loraban # Pyrinex # NA 2783 # Pridane # Brodan # Endex # Durban # Loraban # Pyrinex # NA 2783 # Pridane # DowCo 179 # SHA 05910 # Ethion, dry # Chlorchalonii # Chlorpyrifos-Ehly # O.O.Diethyl O-3,5,6Trichloro-2-Pyridyl Phosphorchioste # Phosphorcothioic Acid, O.O.Diethyl O-(3,5,6Trichloro-2-Pyridyl) Enter	2921882 or 2921-88-2 NIOSH: TF 630000 SAX: DYE000	Toxin	0.083	0.041	ı		0.025	_
Chromina (9)  14 Cr  1 Chrome	7440473 or 7440-47-3 NIOSH: GB 4200000 SAX: CMI750	Toxin	ı			100	0.1	_
Chromium, trivalent (9)  §§ Chromium (III)	16065831 or 16065-83-1 NIOSH: — SAX: —	Toxin	1,700 @ 100 mg/l hardness (12)	210 @ 100 mg/l hardness (12)	16	100	ı	
Chromium, becavalent (9)	18540299 or 18540-29-9 NIOSH: — SAX: —	Toxin	91	=	16	100	s	5
Chrysene (PAH)  #  # Renz(s)Phonanthrene # Benzo(s)Phonanthrene # 1,2-Benzphonanthrene  # 1,2-Benzophonanthrene # RCRA Waste Number U050 # 1,2,5,6-Dibenzonaphthalene	218019 or 218-01-9 NIOSH: GC0700000 SAX: CML810	Carcinogen	ł	-	30	0.044	V/V	0.25
Coliform, feeal (13) (18)	N/A	Narrative - Surface Toxin - Ground	-	ı	1	-, Surface 1 per 100mL, Ground	, Surface 1 per 100mL, Ground	i per 100mL, Surface I per 100mL, Ground
Calor (13)	N/A	Hermful	-	ļ			N/A	S UNITS
Conductance, specific (31)	NIA	Narrative					N/A	
Copper (9)  §§ Cu §§ Cu §§ Cu §§ Ch §§ CDA 110 §§ CDA 122 § CL. 77400 § C.I. Pigment §§ CDA 101 §§ CDA 110 § CDA 122 § C.I. 77400 § C.I. Pigment Meal 2 §§ Copper Bronze § 1721 Gold § Gold Bronze § Krår Copper §§ MI (Copper) § MZ (Copper) § OFHC C. §§ Raney Copper	7440508 or 7440-50-8 NIOSH: GL 532500 SAX: CNR000	Toxin	18 @ 100 mg/l hardness (12)	12 @ 100 mg/l hardness (13)	36	1,000	0.5	-
Cyanide, total    14	57125 or 57-12-5 NIOSH: GS 7175000 SAX: COL500	Toxin	z	5.2	1	200	v,	s <sub>1</sub>

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Except where indicated, values are listed as micro-grams-per-liter (gg/L).	A '-' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	dapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided	alled note of explar	ation is provided.
Pollutent	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Reporting Value (19)
Delapon  ## —  # Delapon # Unipon # Dowpon # Radapon # Revenge # Basinex # Ded-Weed  # Dalacide # Gramevin # Criapon # Dalpon Sodium # Sodium Dalapon  # 2,2-Ditchloropropionic Acid # SHA 28902, for sodium salt # SHA 28901, for dalapon only # Propionic Acid # 3.2-Dichloropropionic only # Propionic Acid # a.a-Dichloropropionic Acid # alpha-alpha-	75990 or 75-99-0 NIOSH: UF 0690000 SAX: DGI400	Toxin	ł	I	1	200	£	8
Dalapon, sodiem salt  #	127208 or 127-20-8 NIOSH: UF 1225000 SAX: DOI600	Toxin		I	1	200	£.	e.
Demetor  § Sputox § Bay 10756 § Bayer \$169 § Demox § Diethoxy Thiophosphoric Acid  § Sputox § Bay 10756 § Bayer \$169 § Demox § Diethoxy Thiophosphoric Acid  Exter of 2-Ethylmercaptochunol § O,O-Diethyl 2-Ethylmercaptochyl Thiophosphate  § O,O-Diethyl O(and S)-2-(Ethyl-Thio)Ethyl Phosphorothiosts Mixture § E 1059  § ENT 17,295 § Mercaplophos § Systemox § Systox § ULV § Demeton-O +  Demeton-S	8065483 NIOSH: TF 3150000 SAX: DAO600	Toxin	1	0.1	1	1	i	l
DiG-EhlyBesyl)Adipate  # Hexanedioic Acid  # DEHA # Bienfex DOA # Effemoil DOA # Ergoplast AdDO # Flexol  A 26 # Ex-238 # Reomol DOA # Vestinol OA # Wickenol 158 # Kodeflex DOA  # Monoplex DOA # NCI C54386 # Octyl Adipate # Dioctyl Adipate # Adipic Ethylhexyl Adipate # Hexanedioic Acid, Bis(2-Ethylhexyl) Ester  Acid, Bis(2-Ethylhexyl) Ester # Hexanedioic Acid, Bis(2-Ethylhexyl) Ester	103231 or 103-23-1 NIOSH: AU 970000 SAX: AE0000	Toxin	1	ı	t .	400	0.5	9
DiG-EthyBecyl)Phthalate (PAE)  §§ Bis(2-EthyBecyl)Phthalate  § BEHP § DEHP § Octoil § Fleximet § Flexol DOP § Kodaflex DOP  § EdhyBecyl Phthalate § DiethyBecyl Phthalate § 2-EthyBecyl Phthalate  § Di(EthyBecyl)Phthalate § Di(2-EthyBecyl)Phthalate  § Bis (2-EthyBecyl)Phthalate	117817 or 117-81-7 NIOSH: TI 0350000 SAX: BIS000	Carcinogen	I	ı	130	· .	N/A	٥
=-Dioctyl Phthalate  #	117840 or 117-84-0 NIOSH: TI 1925000 SAX: DVL600	Carcinogen		·	1		V/V	9

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Except where indicated, values are litted as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently may allable.	ndard has not been a	dapted or information	s currently unavailable		A '(n)' indicates that a detailed note of explanation is provided.	alled note of explan	ation is provided.
Pollbrine	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Mandards (17)	(22)	Value (19)
Dibenz(a,b)Anthracene (PAH)	53703 or 53-70-3	Carcinogen	1	1.	30	0.044	V/V	0.5
# CRA Wate Number 1063  P DBA   Diberz(s,h)Andracene   RCRA Wate Number 1063  P Diberro(s handracene E 1 2.5 C Berranduncene E Diberro (s h) Andracene	NIOSH: HN 2625000 SAX: DCT400							
\$ 1,2,5,6-Dibenzanthnene \$ 1,2.5,6-Dibenz(a) Anthracene								
1,3-Dibromo-3-Chloropopane	96128 or 96-12-8 NIOSH: TY 8750000	Carcinogen	-	_	-	0.2	N/A	0.05
1 DBCP   Fumagon   Fumazone   NCI C00500   Nemabrom   Nemafume	SAX: DDL800							
The Nemagon & Nemagons & Nemagons Soil Furnigant & Nemanax & Nemanar								
Carwell Number 287   Dibromochloropropane   RCRA Waste Number U066								
§ 1-Chloro-2,3-Dibromopropane § Propane, 1,2-Dibromo-3-Chloro- § EPA Perticide Chemical Code 011301								
Dibromochloromethane (HM)	124481 or 124-48-1	Carcinogen		***	3.75	4.1	V/V	6.5
	NIOSH: PA 6360000							
CDBM   NCI C55254   Chlorodibromomethane   Methane, Dibromochloro-	SAX: CFK500							`
Dibatel Pathalate	\$4742 or 84-74-2	Toxin			68	2.700	0.25	0.25
	NIOSH: TI 0875000							
# DPB # Celluffex DPB # Elsol # Hexaplas M/B # Palatinol C # Polycizer DBP	SAX: DEHZ00							
# P.X. 104 # Station DBF # Wiczzef # SHA Uzecul # Butylphthalate  # N-Butylphthalate # Dibutyl Physicia # Di-n-Butylphthalate								
1 Dibutyl-Phthalate   Di-n-Butyl Phthalate   RCRA Warte Number 1069								
§ Phthalic Acid Dibutyl Ester § Dibutyl 1,2-Benzene Dicarboxylate § 1,2-								
Benzenedicarboxylic Acid Dibutyl Ester § 1,2-Benzenedicarboxylic Acid, Dibutyl Ester  1. Renzene Dicerboxylic Acid Din. Buryl Ester								
1,2-Dichlorobenzene	95501 or 95-50-1	Toxin			55.6	009	0.02	10
	NIOSH: CZ 4500000							
# DCB # ODB # ODCB # Dizene # Cloroben # Chloroden	SAX: DEP600							
Termitkii   Dilatin DB   Dowtherm E   Dilantin DB   o-Dichlorobenzene								
Benzene, 1,2-Dichloro- RCRA Waste Number U070								
1,3-Dichlorobenzene	S41731 or 541-73-1	Toxin		1	55.6	400	9000	10
	NIOSH: CZ 4499000							
M-Dichlorobenzene   m-Dichlorobenzene   meta-Dichlorobenzene	SAX: DEP699							
Uchlorobenzene, 1,3- F Benzene, 1,3-Dichloro-								

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Except where indicated, values are fisted as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable	andard has not been ad	lapted or information i	s currently unavailable	•	A '(n)' indicates that a detailed note of explanation is provided	ailed note of explans	tion is provided.
Politriant	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Reporting Value (19)
1,4-Dichlorobenzene	106467 or 106-46-7 NIOSH: CZ 455000	Toxin		_		15	9000	10
# PDB # PDCB # NCI C54955 # Evola # Paradi # Paradow # Persia-Perszol # Paracide # Parazene # Paramoth # Santochlor # Paramotges # di-Chloricide # Para Chrystals # p-Dichlorobenzene # Canwell Number 632 # Paradichlorobenzene # paramoth. I, 4-Dichloro- # RCRA Waste Number U070 # RCRA Waste Number U070 # RCRA Waste Number U071 # RCRA Waste Number U072 # p-Chlorophenyl Chloride # EPA Pesticide Chemical Code 061501	SAX: DEPROO							
3,3-Dichloroberzidine  # DCB # C.I. 23060 # Curithane C126 # Dichloroberzidine # 0,0'- Dichloroberzidine # Dichloroberzidine Base # Berzidine, 3,3'-Dichloro- # RCTA Wate Number U073 # 3,3'-Dichloro- # RCTA Wate Number U073 # 3,3'-Dichloro- (1,1'-Biphenyl)-4,4'-Diamine # 1,1'-Biphenyl-4,4'-Diamine, 3,3'-Dichloro-	91941 or 91-94-1 NIOSH: DD 0524000 SAX: DEQ400	Carcinogen	1	1	312	0.39	٧/٧	20
Dichlorodifhoromethane (HM)  # 1-  # F12 # R12 # FC 12 # Halon # CFC-12 # Axton 6 # Electro-CF 12  # Eskimon 12 # Frigen 12 # Gentron 12 # Iscon 122 # Kainer Chemicals 12  # Leskimon 12 # Frigen 12 # Propellant 12 # Refrigerant 12  # Local 12 # Usen 12 # Fron 12 # Propellant 12 # Refrigerant 12  # Phororachon-12 # RCRA Waste Number U075 # Diffuorodichloromethane  # Mechane, dichlorodiffuoro-	75718 or 75-71-8 NIOSH: PA \$20000 SAX: DFA600	Toxin	1	1	3.75	006'9	0.05	0.5
9.p.*Dicklorodipleay! Dicklorochane  # The # DDD # Dicklorochane # Rhothane # 4.4*DDD  # TDE # DDD # Dilene # NCI COO475 # Rothane # Rhothane # 4.4*DDD  # p.p.*DDD # p.p.*TDE # 4.4*D-DDD # RCRA Wate Number U060  # Terrachlorodipheaylethane # Dichlorodipheayldichlorochane # Dichlorodipheayl Dichlorochane # 1,1-Dichloro-Libid Dichlorochane # 1,1-Dichloro-Libid Chloropheayl Dichlorochane # 1,1-Dichloro-Libid Chloropheayl # 1,1-Dichlorochane # 2,2-bis Calloropheayl # 1,1-Dichlorochane # 2,2-bis Calloropheayl # 1,1-Dichlorochane # Benzene, 1,1(2,2-Dichlorochane # 2,2-bis Calloropheayl # 1,1-Dichlorochane # Benzene, 1,1(2,2-Dichlorochane) # 1,1-Dichlorochane # Dichlorochane # Dichlor	72548 or 72-54-8 NIOSH: KI 0700000 SAX: BIM500	Carcinogen		i .	53,600	0.0083	N/A	10.0
p.pDicklorodiphenyldickloroethylene  # —  **DDE # 4.4'-DDE # NCI C00555  **Dicklorodiphenyldickloroethylene # Dicklorodiphenyldickloroethylene, p.p' - # 2,2'-  **Dicklorodiphenyldickloroethylene # Dickloroethylene, p.p' - # 2,2'-  **Eis(-Chlorophenyl)-1,1-Dickloroethylene # 1,1'-(Dickloroethenylidene)list(-  Chlorobenzzene) # 2,2'-bis(p'-Chlorophenyl)-1,1-Dickloroethylene # Benzene, 1,1'-  (DickloroethenylideneBis[4-Chloro-	72559 or 72-55-9 NIOSH: KV 945000 SAX: BIM750	Carcinogen		Ι .	53,600	0.0059	NIA	0.01

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	CASRN, MOSH and		Americ Life Sendende At	anderde (15)		to the man extended (a) as	land note or expen	acon is provided.
Politicant Element / Chemical Commont or Condition	SAX Numbers		Acute on	6, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Bioconcentration	Human Health Standards	Trigger Value	Reporting
and Philipson Raham In the contract of the con	(12) (47) (57)	Cartegory (I)(3)	Ш	Caronic (4)	Factor (BCF) (5)	(17)	(23)	Value (19)
P.PDictalor win process of the control of the con	S0293 or 50-29-3 NIOSH: KJ 3325000	Carcinogen	0.55	0.001	53,600	0.0059	N/A	90.0
BDT # 4,4'-DDT # Agrian # Anoffex # Arkotine # Azotox # Bosan Supra # Bodeferrol # Chlorophenothane # Chlorophenothane # Chlorophenothane # Chlorophenothane # Cofenotane # Deelo # # Chlorophenothane # Diphenyltrichloroethane # Dichlorodiphenyltrichloroethane # 4,4'-Dichlorodiphenyltrichloroethane # 1,1'-Trichloro-2,2,-bis(g-Chloropheny)	SAX: DAD200							
Chloro-) § alpha, alpha-Bis (p-Chlorophenyl)-beta, beta, beta. Trichlorethane								
1,1-Dichlorochhane  \$ Vimildene Chloride  \$ VimVildene Chloride  \$ VimVildene Chloride  \$ VimVildene Chloride  \$ 1,1-Dichlorochylene	75343 or 75:34:3 NIOSH: KI 0175000 SAX: DFF809	Carcinogen	1				N/A	0.5
1,2-Déchloroechane  \$	107062 or 107-06-2 NIOSH: KI 0525000 SAX: DFF900	Carcinogen		1	1.2	3.8	<b>V</b> /V	0.5
1.2-Ehylene Dichloride 1 alpha, beta-Dichloroethane								
1,1-Dichloroschiene  §§ Vinylidene Chloride  § VDC § 1,1-DCE § Sconstex § NCI C54262 § 1,1-Dichloroschiane  § 1,1-Dichloroschiene § Vinylidene Chloride § 1,1-Dichloroschylene  § Vinylidene Dichloride § Ehene, 1,1-Dichloro-  §§ Vinylidene Dichloride § Ehene, 1,1-Dichloro-  Waste Number U078 § Dichloroschylene, 1,1-   § Ethylene, 1,1-Dichloro-	75354 or 75-35-4 NIOSH: KV 9275000 SAX: DF1000	Carcinogen	1		5.6	5.7	N/A	0.5
cis-1,2-Dichloroethylene	156592 or 156-59-2 NIOSH: KV 9420000 SAX: DFI200	Toxin	-	1		70	0.007	0.5
trans-1,2-Dichloroethylene § RCRA Wate Number U079 § trans-1,2-Dichloroethane § trans-1,2-Dichloroethylene § Dichloroethylene, trans- ¶ trans-Acetylene Dichloroethylene, trans- ¶ 1,2-trans-Dichloroethylene § Ethene, 1,2-Dichloroethylene, trans-	156605 or 156-60-5 NIOSH: KV 940000 SAX: DF1600	Toxin		1	1.58	100	0.05	0.5

December, 1995 CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	FANA NUME	RIC WATER Q	UALITY STANI	JARDS (6)		Page	Page 17 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (#g/L).	A '' indicates that a Standard has not been adapted or information is currently may allable.	ndard has not been a	dapted or information	s currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	ailed note of explan	tion is provided.
	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)		T 20 10 10 10 10 10 10 10 10 10 10 10 10 10		Required
Pollutant Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Standards (17)	(22)	Value (19)
Dichloromethane (HM)  §§ Medrylene Chloride  § R 30 § DCM § Freon 30 § Aerothene MM § NCI CS0102 § Solmethine  § R 30 § DCM § Freon 30 § Aerothene MM § NCI CS0102 § Solmethine  §§ Medrylene Chloride § Methane Dichloride § Methane, Dichloride § 1,1- Dichloromethane § Methylene Bichloride § Medrylene Dichloride	75092 or 75-09-2 NIOSH: PA 8050000 SAX: MDR000	Carcinogen		1	6.0	5	N/A	5.0
2,4-Dichloropbesol  \$1	120832 or 120-83-2 NIOSH: SK 8575000 SAX: DFX800	Harmful	ı	-	40.7	0.3 (9)	V/V	01
2,4-DicLiorophenoxy acetic Acid  15.4-D   Salvo   Phenox   Farmeo   Amidox   Miracle   Agrotect   Weedtrol   Herbidal   Ded-Weed   Lawn-Keep   Fernimine   Crop Rider   Aqua-Kigen   Dichrophenoxy acetic Acid   2,4-Dichlorophenoxy Acetic Acid   Dichlorophenoxy acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 2,4-P   Acetic Acid, 3,4-P   Ac	94757 or 94-75-7 NIOSH: AG 682500 SAX: DFY600	Тохіп	1		I	70	0.2	_
12-Dichloropropane  ## —  ## NCC55141 # Propylene Chloride # Propylene Dichloride # Carwell Number 324 # NCC55141 # Propylene Chloride # Edpha, beta-Dichloropropane # Propane, 1,2-Dichloropropane # RCRA Wates Number 1083 # EPA Penticide Chemical Code 029002	78875 or 78-87-5 NIOSH: TX 9625000 SAX: DGF600	Toxin	1	ı	4.11	0.52	0.01	0.5
1.3-Dickloropropene  § Telone II  † Telone II  † Telone   NCI C03985   Vidden D   Dickloropropene   a-Chlorosilyl Chloride   p-Chlorosilyl Chloride   Dickloropropene, 1.3- I 1.3-Dickloropropylene   p-Chlorosilyl Chloride   Polichloro-2-Propene   Propene   Polichloro-2-Propene   Propene   Polichloropropylene   p-Chloropropylene   p-Chloropropylene   Polichloropropylene   P	542756 or 542-75-6 NIOSH: UC 8310000 SAX: CEF750	Toxin	I	1	161	01	0.5	9.5
cis.1.3.Dickloropropese  # Talone II  # 1.3-Dickloropropese # 1.3-Dickloropropylene # (2)-1.3-Dickloropropese  # 1.3-Dickloropropere # 1.3-Dickloropropylene # (2)-1.3-Dickloropropese  # 1.3-Dickloropropere # 1.3-Dickloropropylene # (2)-1.3-Dickloropropese	10061015 or 10061-01-5 NIOSH: UC 8325000 SAX: DGH200	Toxin	1	I	16.1	01	0.01	0.5
trans-1,3-Dichloropropene    Table   T	10061026 or 10061-02-6 NIOSH: UC \$320000 SAX: DGH000	Toxin	1	I	16:1	01	0.05	0.5

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUMEI	RIC WATER Q	UALITY STAN	DARDS (6)		Page	Page 18 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently mavailable.	ndard has not been a	dapted or information i	s currently unavailable	*	A '(n)' indicates that a detailed note of explanation is provided.	tailed note of explan	ation is provided.
Pollretend	CASRN, NIOSH and		Aquatic Life Standards (16)	landards (16)				Required
Element / Chemical Compound or Condition	(25) (24) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting
Dieddria  \$\frac{1}{2}\$ Avit \$\frac{1}{2}\$ Quintox \$\frac{1}{2}\$ Disoldex \$\frac{1}{2}\$ NCI C00124 \$\frac{1}{2}\$ Dieldrite \$\frac{1}{2}\$ \$\fra	60571 or 60-57-1 NIOSH: 10 175000 SAX: DHB400	Carcinogen	1.25	0.0019	4,670	0.0014	NA	0.02
Diethyl Prithalate  \$	84662 or 84-66-2 NIOSH: TI 1050000 SAX: DIX000	Toxin	-	1	73	23,000	0.25	0.25
Dimethyl Phthalate  # —  # DMP # NTM # ENT 262 # Mipax # Avolin # Fermine # Solvanom  # Solvanome # Palatinol M # Methyl Phthalate # Dimethylphthalate # Phthalic Acid, Dimethyl Ester # Dimethyl Benzene-o-Dicarboxylate # Dimethyl 1.2.  Benzenedicarboxylate # 1,2-Benzenedicarboxylate A Dimethyl Ester	131113 or 131-11-3 NIOSH: TT 1575000 SAX: DTR200	Toxin	1	ı	36	310,000	0.04	0.25
2,4-Dimethylphenol  #	105679 or 105-67-9 NIOSH: ZE 560000 SAX: XKJ500	Hamful			93.8	400	N/A	10
4,6-Dmitro-Cresol  # DNOC # Arborol # Capsine # Dinitrol # Trifocide # Artinomin # Winterwash # Dinitro-cresol # Dinitro-Cresol # Carwell Number 390 # 2.4-Dmitro-Cresol # Dinitro-Cresol, 4,6- # o-Cresol, 4,6-dinitro- # RCRA Waste Number 1907 # 2-Methyl-4,6-Dinitrophenol # AcDinitro-2-Methylphenol # 2,4-Dinitro-6-Methylphenol # 3,5-Dinitro-2- Hydroxyrobuene # Phenol, 2-Methyl-4,6-Dinitro-	534521 or 534-52-1 Niosh: ao 962300 SAX: dut400	Toxin	. 1	1	5; 55	<b>E</b>	16	S.
2,4-Dmitrophenol  919—  § Nitro § Adifen § Kleenup § 2,4-DNP § Chemox PE § Maroxol-50  § Solfo Black B § alpha-Dinitrophenol § Dinitrophenol, 2,4- § Phenol, 2,4- Dinitro-  § Tertouthur Black PB § RCRA Wate Number P048 § 1-Hydroxy-2,4-  Dinitrobenzene	51285 or 51-28-5 NIOSH: SL 2800000 SAX: DUZ000	Toxin	1	: <b> </b>	1.5	0¢	13	ક

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	TANA NUME	RIC WATER Q	UALITY STANI	DARDS (6)		Page	Page 10 of 10 name:
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Nandard has not been adapted or information is currently unavailable.	andard has not been a	dapted or information	is currently unavailable		Explanation indicates that a definite for indicates the control of	tailed note of exulan	tion is ameridad
Pollutant	CASRN, NIOSH and		Aquatic Life S	Aquatic Life Standards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting
2,4-Dinitrotolneme ## 1,4-Dinitrotolneme	121142 or 121-14-2 NIOSH: XT 1575000 SAX: DVH000	Carcinogen			3.8	1.1	N/A	01
# RCKA Wate Number UIOS # Berzene, I-Methyl-2,4-Dinitro- 2,6-Dinitratoluese #	606202 or 606-20-2 NIOSH: XT 1925000 SAX: DVH400	Toxin			1		0.01	
Dinoseh  # Dinoseh  # Dinoseh  # DINBP # DRNF # Aretit # Basunite # Caldon # Sparic # Kiloseh # Spurge  # DINBP # Dinitro # Hel-Fire # SHA 037505 # Dow General # Sinox General  # RCRA Waste Number POZO # Dow General Weed Killer # Vertac General Weed  # RCRA Waste Number POZO # Dow General Weed Killer # Vertac General Weed  # A See Bury # A See Bury # A Chining Political # A See Bury # Renol # A See Bury # A See Bury # Renol # A See Bury # Renol # A See Bury # Renol # A See Bury	88857 or 88-85-7 NIOSH: \$J 9800000 SAX: BRE500	Toxin	1	1	1	7	0.19	1.5
Frenci, 2-(1-Methylpropyl) 4,6-Dinitro-  Dioxin  # —  # TCDD # TCDD # NCI C03714 # Dioxine # Tetradioxin # 2,3,7,8-TCDD # 2,3,7,8-Tetrachlorodibenzo-Dioxin # 2,3,7,8-Tetrachlorodibenzo-1,4-Dioxin # Dibanzoli # 11 4 Dioxin 2,3,7,8-Tetrachlorodibenzo-1,4-Dioxin	1746016 or 1745-01-6 NIOSH: HP 3500000 SAX: TAI000	Carcinogen		1	5,000	0.00000003	N/A	_
1.2-Dipbenyllydrazio  # Hoferzobenzene # NCI CO1854 # N.NBianiline # Benzene, Hydrazodi- # ROAX Waste Number U109 # (sym)-Diphenylhydrazine # Diphenylhydrazine, 1,2- # Hydrazion, 1.2-Diphenyl-	122667 or 122-66-7 NIOSH: MW 2625000 SAX: HHG000	Carcinogen	I	ı	24.9	0.4	N/A	10
Diquat  # —  Actor # Fegiox # Deiquat # Regione # Aquacide # Dextrone # Paraquat # Preegiove # SHA 032201 # Weedrine-D # Diquat Dibromide # Ethylene Dipyridylium Dibromide # 1.1-Ethylene 2,2-Dipyridylium Dibromide # 5,6-Dihydro-Dipyridylium Dibromide # 5,6-Dihydro-Dipyridylium Dibromide # 9,10-Dibydro-8,10s- Diazoniapherantneed, 1-Ethylene-2,-Bippridylium)Dibromide	85007 or 85-00-7 NIOSH: JM 5690000 SAX: DWX800	Toxin	ſ		. 1	20	0.44	0

December, 1993	CINCULAN WEB-1, MOIN	IAINA INUIME	KIC WAIEK Q	MUNIANA NUMERIC WAIER QUALITY STANDARDS	JAKUS (6)		Page	Page 20 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	adapted or information	is currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	tailed note of explan	ation is provid
D. H. C.	CASRN, NIOSH and		Aquatic Life	Aquatic Life Standards (16)	<u></u>			Required
Flement / Chemical Compound or Condition	25, (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value	Reporting Value (19)
Endosulfan § C. 100566 § Malixv & Enaure § Boosit & Endocel § Thiodan & Cyclodan § Crintfan & Berzoepin & Thiosulfan § SHA 079401 & Chlothispin § RCRA Waste Number P050 & Endosulfan (mixed isomers) § Hexachlorobexahydromethano 2,4,3-Berzodioxathispin-3-Oxide § 1,4,5,6,7,7-Hexachloro-5-Norbomene-2,3- Dimechanol Cyclic Sulfine § 5.Norbomene-2,3-Dimechanol, 1,4,5,6,7,7-Hexachloro- Cyclic Sulfine § 6,7,8,9,10,10-Hexachloro-1,5,5s,6,9,9s-Hexahydro-6,9-Methano-2,4,3- Berzodioxathispin-3-Oxide § 6,9-Methano-2,4,3-Berzodioxathispin, 6,7,8,9,10,10- Haxachloro-1,5,5s,6,9,9s-Hexahydro-, 3-Oxide	SAX:	Toxin	0.11	9000	270	91	ree Cis and Trans isomers	see Cis and trans isomers
Endosulfan, I §§ — § Thiodan I § Endosulfan-I § Alphe-Endosulfan § elphe-Endosulfan	959988 or 959-98-8 NIOSH: — SAX: —	Toxin	0.11	0.056	270	110	0.014	0.015
Endosulfan, II §§ — § Thioden II § Endosulfan-II § Bets-Endosulfan § bets-Endosulfan	33213659 or 33213-65-9 NIOSH: — SAX: —	Toxin	0.11	0.056	270	110	0.004	0.024
Endosulfae Sulfate    14	1031078 or 1031-07-8 NIOSH: SAX:	Toxin	!	Ī	270	110	0.05	0.05
Endothall  ## # Hydout # Hydrothal-47 # Aquathol # SHA 038901 # Accelerate # Tri-Endothal # Endothal Hydout # RCRA Waste Number P088 # 3.6-Endooxobexahydrophthalic # Endothal Hydout # RCRA Waste Number P088 # 3.6-Endooxobexahydrophthalic Acid # Pthhalla Acid # Hexallydro-3.6-endo-Cxy- # 7-Oxalsicyelo(2,2,1)Heplane-2,3- Dicarboxylic Acid # 1,2-Cyclohexanedicarboxylic Acid, 3,6-endo-Epoxy-	145733 or 145-73-3 NIOSH: RN 7875000 SAX: EAR000	Toxin	1	1		001	-	7
Endrin ##	77208 or 72-20-8 NIOSH: IO 157500 SAX: EAT500	Toxin with BCF > 300	60'0	0.0023	3,970	0.76	N/A	0.3
Endrin Aldehyde {}	7421934 or 7421-93-4 NIOSH: — SAX: —	Toxin with BCF >300	1	ł	3,970	0.76	V/V	0.025
Epichlorobydria	106898 or 106-89-8 NIOSH: TX 490000 SAX: CGN750	Carcinogen		ı	I	30	N/A	1

December, 1995 CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUMER	<b>SIC WATER OU</b>	JALITY STANI	ARDS (6)		Page .	Page 21 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	dapted or information is	currently mayailable.		A '(n)' indicates that a detailed note of explanation is provided.	iled note of explan	tion is provided.
Pollitent	CASRN, NIOSH and		Aquatic Life Standards (16)	indards (16)				Required
Element / Chemical Compound or Condition	(25) (20) (27)	Category (1) (2)	Acute (5)	Chronic (4)	Factor (BCF) (5)	Human Health Mandards (17)	Ingger value (22)	Value (19)
Echylbenzene ## - ## - ## Ethylbenzol # Phenylethane # Ethyl Benzene # Benzene, Ethyl Ethyl Benzene # Benzene,	0	Toxin			37.5	007	0.002	0.5
1,2-Dhromoethase  § Ethylene Dibromide  § EDB § Nephis § Kopfume § Celmide § E-D-Bee § Soilfume  § Bromofume § Dowfume 40 \$ SHA 042002 § Pestraster § Soilbrom-40  § Dhromoethane § Ethylene Bromide § Glycol Dibromide § 1,2-Dibromoethane  § Dibromoethane, 1,2- § 1,2-Ethylene Dibromide § RCRA Waste Number U067	106934 or 106-93-4 NIOSH: KH 9275000 SAX: EIY500	Carcinogen	I		I	0.05	N/A	0.5
Fluoranthese 206440 or 2064  § 16  § 145  § 147-1 § Benzo(k)Fluorene § 1,2-Benzacenaphthene § RCRA SAX: FDF000  Wate Number U120 § 1,2-(1,8-Naphthylene)Benzene § Benzene, 1,2-(1,8-Naphthyleneodiy)	206440 or 206-44-0 NIOSH: LL 4025000 SAX: FDF000	Toxin with BCF >300			1,150	300	N/A	01
Finorese (PAH)  # -  9 9H-Fluorese # Diphenylenemethane # 0-Biphenylenemethane  \$ 2.2'-Methylenebiphenyl	86737 or 86-73-7 NIOSH: — SAX: —	Carcinogen	_	_	30	13,000	N/A	0.25
Fluorine § Fluoride   Fluoride	7782414 or 7782-41-4 NIOSH: LM 6475000 SAX: FEZ000	Toxin	_			4,000	\$	100
Fineride ## Flourine ## Flouride # Fluoride # Fluoride fon # Fluorine, Ion # Soluzble Fluoride # RCRA Weste Number POS6 # Hydrofluoric Acid, Ion(1-)	16984488 or 1698448-8 NIOSH: LM 6290000 SAX: FEX875	Toxin	-		_	4,000	S	100
Gamma Dnitters (16)	Multiple	Carcinogen / Radioactive	1	-	-	40 mrem ede/yr	N/A	_
Gases; dissolved, total-pressure (26)	Multiple	Toxin	1	110% of saturation			+	_
Glyphocate  #	1071836 or 1071-83-6 NIOSH: MC 1075000 SAX: PHA500	Toxin		1	·.	700	9	05
Glyphosate Isopropylamine Salt \$1 — \$ SHA 103601	38641940 or 38641-94-0 NIOSH: SAX:	Toxin	-	1	1	700	9	82

December, 1995 CIRCULA	CIRCULAR WQB-7, MON	TANA NUME	7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	UALITY STANI	JARDS (6)		Page	Page 22 of 10 pages
Except where indicated, values are listed as micro-grams-per-liter (pg/L).	A '' indicates that a Sandard has not been adapted or information is currently unavailable.	indard has not been	adapted or information	s currently unavailable		S. S. of (n)' indicates a deal believes to see believes a seed seed on since the seed of t	and a to a feel following	in is puges
	CASRN, NIOSH and		Aquatic Life Standards (16)	tandards (16)			merd no a on extra	Remired
Flement / Chemical Compound or Condition	25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration	Human Health Standards	Trigger Value	Reporting
Guthion    DBD   NCI C00066   Carfene   Gothnion   Azinphos   Cyrubyon   DBD   NCI C00066   Carfene   Gothnion   Azinphos   Cyrubyon   Gusuthion   Bay 17147   Methylazinghos   Methyl Guthion   Azinghos-Methyl   Azinghos Methyl   Carwell Number 374   EPA Pesticide Chemical Code 058001   0.0-Dimethyl   Carwell Number 374   EPA Pesticide Mercaptomethyl)-1,2,3-Benzoritazin-(3H)-One   Penzoritazin-dithiophosphoric Acid Dimethoyy Ester   3-Dimethoyy Ester   3-Dimethoyy Ester   3-Dimethoyy Ester   3-Dimethoyy Ester   Brosphozodithiole Acid, O,O-Dimethyl Ester, S-Ester with 3-(Mercaptomethyl)-1,2,3-Benzoritazin-4(3H)-One   Penzoritazin-4(3H)-One   Ester with 3-(Mercaptomethyl)-1,2,3-Benzoritazin-4(3H)-One	86500 or 86-50-0 NIOSH: TE 1925000 SAX: ASH500	Toxin	ı	10.01	1			(a) awa
Hardness, total	N/A	Narrative (18)					N/A	1,000
Heptachlor  # NCC CO180 # Drinox # Heptamul # Agroceris # Heptagran # SHA 04481  # Rodischlor # Velsicol-104 # RCRA Waste Number PO59 # 3,4,5,7,8,8- heptachlorodiscyclopentatiene # Disyclopentatiene, 3,4,5,6,7,8,8-Heptachloro- # 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7-Tertahydro-4,7-Methanol-H-Indene # 4,7- Methano-H-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7-Tertahydro- # 1(3a),4,5,6,7,8 # Heptachloro-3a,4,7,7-Tertahydro-	76448 or 76448 NIOSH: PC 0700000 SAX: HAR000	Carcinogen	0.26	0.0038	11,200	0.0021	N/A	0.2
Heptachlor Epoxide  H—  H—  H—  HAC  HAC  HAC  HAC  HAC  H	1024573 or 102457-3 NIOSH: PB 9450000 SAX: EBW500	Carcinogen	0.26	0.0038	11,200	0.001	٧ <u>٠</u>	0.1
Herachlorobenzene  # —  # HEB # Amatin # Smut-Go # Sanocide # Anticarie # Bunt-Cure # Bunt-No-  # More # Perchlorobenzene # Phenyl Perchloryl # No Bunt Liquid # Julin's Carbon  Chloride # Co-op Hexa # Hexa C.B. # Benzene, Hexachloro-	118741 or 118-74-1 NIOSH: DA 2975000 SAX: HCC500	Carcinogen	I	1	8,690	0.0075	V/V	0.2
Herachlorobutadiene  #	87683 or 87-68-3 NIOSH: EJ 0700000 SAX: PCF000	Carcinogen			2.78	4.4	V/V	01
Herachlorocycloherane  # HC # BHC # BHC # BHC # Grannexane # Hexachloran # Compound 666 # Benzenehexachloride # Benzene Hexachloride	608731 or 608-73-1 NIOSH: QV 3150000 SAX: BBP750	Carcinogen	1	-	130	0.039	V/V	0.1

December, 1995	CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	FANA NUME	RIC WATER Q	UALITY STANI	OARDS (6)		Page	Page 23 of 39 pages
Except where indicated,	Except where indicated, values are listed as micro-grams-per-liter (eg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	dapted or information	is currently unavailable		A '(n)' indicates that a detailed note of explanation is provided.	nied note of explan	tion is provided.
	Bank Hand	CASRN, NIOSH and		Aquatic Life Standards (16)	tandards (16)		The State of the S	T-dense Value	Required
De	Element / Chemical Compound or Condition	25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Standards (17)	Ingger value (22)	Value (19)
alpha-Herachlorocycloherane  # —  # Berzene Hezachloride-crisomer # of HCH # alpha-Lindane # of Hezachlor # Hezachlorocyclohezane-alpha # alp Hezachlorocyclohezane-alpha # alpha-Li, alpha-Li, Al, 5.6. Hezachlorocy Hezachlorocyclohezane # alpha-Li, Hezachlorocyclohezane # Cyclohezane alpha, 3-beta, 4-alpha, 5-beta, 6-beta)	alpha-Herachlorocyclohecane  Berzene Hexachloride-criomer § a-BHC § alpha-BHC § HCH-alpha § alpha-  Berzene Hexachloride-criomer § a Hexachlorocyclohexane § alpha-Berzenetherachloride  Hexachlorocyclohexane-alpha § alpha-Hexachlorocyclohexane § Benzene Hexachlorocyclohexane § alpha-H.12,3,4,5,6-Hexachlorocyclohexane § Cyclohexane,  alpha-12,3,4,5,6-Hexachlorocy § I-alpha,2-alpha,3-beta,4-alpha,5-beta,6-beta-  alpha-3-beta, 4-alpha, 5-beta, 6-beta-  alpha-3-beta, 4-alpha, 5-beta, 6-beta-	319846 or 319-84-6 NIOSH: GV 350000 SAX: BBQ000	Carcinogen	1		130	0.039	N/A	0.1
beta-Herachlorocycloberane  \$	beta-Herachlorocycloberane  § 6-BHC § beta-BHC § HCH-beta § beta-HCH § 6-Lindane § beta-Lindane  § 6-BHC § beta-BHC § HCH-beta § beta-HCH § 6-Lindane § beta-Lindane  § Herachlorocycloberane § 6 Herachlorocyclohexane § Herachlorocyclohexane-beta  § Herachlorocyclohexane, beta- § trans-alpha-Benzenebexachloride  § Benzenebexachloride, trans-alpha- § beta-1,2,3,4,5,6-Hexachlorocyclohexane  § Cyclohexane, 1,2,3,4,5,6-Hexachlorocyclohexane  § Cycl	319857 or 319-85-7 NIOSH: GV 475000 SAX: BBRO00	Carcinogen	1	J	130	9.14	<b>V</b>	0.1
delta-Herachlorocycloberane  \$ 4-HC	della-Herarhlorocycloberane  \$ -BHC \$ delta-BHC \$ HCH-delta \$ delta-HCH \$ \alpha-BHC \$ \alpha-Lindano \$ \text{ delta-BHC \$ \$ delta-BHC \$ \$ \alpha-Lindano \$ \text{ delta-BHC \$ \$ delta-Berzeneltezachloride} \$ \$ Hexarellorocycloberane \$ \$  delta-Lindano \$ \$ \$ \text{ delta-lindanocycloberane \$ \$ \$ \text{ delta-lindanocycloberane \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	319868 or 319-86-8 NIOSH: GV 455000 SAX: BFW500	Toxin		1	130		0.000	0.1
gamma-bezachlorocyclohezane  # Lindane  # Lindane  # RENC # PEHC # Gamene  # Agrocide # Afride # BHC-  HCH # I Hexachlorocyclohezu  Beznechezuchloride # gamma  # Hexachlorocyclohezuse (gamma  1.2.3,4,5,6 Hexachlorocyclohezuse  isoner # 1.2.3,4,5,6 Hexachlorocyclohezu  beta,4-alpha,5-alpha,6-beta-Hexachlo-  Hexachloro-, (I-alpha, 2-alpha, 2-alpha,	## Lindane   Table   Part   Part   Gamene   Lintox   Lentox   Hexcide   Aparain     Table   Part   Part   Gamene   Lintox   Lentox   Hexcide   Aparain     Table   Afcide   BHC-gamma   gamma-BHC   HCH-gamma   gamma-HCH   Thexachlorocyclohexane   gamma-Hcx-chlorocherarene   gamma-Benzaendexachloride   gamma-Benzaendexachloride   Hexachlorocyclohexane gamma   12.34.5,6-Hexachlorocyclohexane   Cyclohexane, 12.33.45.5,6-Hexachlorocyclohexane   Cyclohexane, 12.33.45.5,6-Hexachlorocyclohexane, 12.33.45.5,6-Hexachlorocyclohexane, 12.33.45.5,6-Hexachlorocyclohexane, 12.33.45.6-Ferrachlorocyclohexane, 12.33.45.6-F	58899 or 58-89-9 NIOSH: DV 490000 SAX: BBQ500	Carcinogen	-	<b>90</b> °0	130	61.0	<b>4</b> Ž	110
Hexachlorocyclopentatione  H— HEK # HCF # PCL   RCRA Wate Number UI 1,2,3,4,5,5-Hexachloro-	Hexachlorocyclopentadiene  ## — NIOSH: OY 127  # HEX # HCP # PCL # C-56 # HCCPD # NCI C55607 # Hexachloropentadiene SAX: HCE500  # 1,2,3,4,5,5.Hexachloro- 1,2,3,4,5,5.Hexachloro-	77474 or 77-47-4 NIOSH: GY 1225000 SAX: HCE500	Harmful	I	1	4.34		V/V	_

December, 1995 CIRCULAR WQB-7, MONTANA NUMERIC WATER OUALITY STANDARDS	AR WQB-7, MON	TANA NUME	RIC WATER OF	UALITY STAN	DARDS (6)		Descri	07 70 70
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '-, indicates that a Standard has not been adapted or information is currently unavailable.	andard has not been a	Idapted or information is	s currently unavailable		A '(n)' indicates that a dealled acts of an acts of a contract of a cont	rage	ruge 24 of 37 pages
	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)		on a law consumer (a) as	med note of expen	tune is provided.
Element / Chemica	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration	Human Health Standards	Trigger Value	Reporting
Hexachlorocthane  19 —  1 Avolane \$ Distokal \$ Distopan \$ Distopin \$ Egitol \$ Falkitol \$ Fasciolin  1 NCI CO4604 \$ Phenohep \$ Motenbexe \$ Perchlorocthane \$ Hexachlorocthylene  2 Ethane, Hexachloroc. \$ Carbon Hexachloride \$ Ethane Hexachloride \$ Ethylene  Hexachloride \$ RCRA Waste Number U131 \$ 1,1,1,2,2,2-Hexachlorocethane	67721 NIOSH SAX:	Carcinogen	1	. 1	86.9	19	(T)	To value (19)
Hydrogen Salfide  ### Sink Damp # Sulfur Hydride # Hydrogen Sulphide # Dihydrogen Sulfide # Hydrosulfuric Acid # Sulfurated Hydrogen # RCRA Watte Number U135 # Dihydrogen Monomlifide # Hydrogen Sulfuric Acid	7783064 or 7783-064 NIOSH: MX 1225000 SAX: HIC500	Toxin	1	2	!	1	200	200
Indeno(1,2,3-cd)pyrene (PAB)  § 0-Thenylenepyrene § 2,3-Fhenylenepyrene § 2,3-o-Phenylenepyrene § RCRA Warte Number U137 § Indeno (1,2,3-cd) Pyrene § 1,10-(o-Fhenylene)Pyrene § 1,10- (1,2-Thenylene)Pyrene	193395 or 193-39-5 NIOSH: NK 9300000 SAX: IBZ000	Carcinogen	ı	-	30	0.044	N/A	0.5
lodine (19) 88 I	Iodine 129 15046841 or 15046-84-1 NIOSH: — SAX: —	Carcinogen / Radioactive	1		1	40 mrem ede/yr	N/A	
lodine (19) \$\$ 1	Todine 131 10043660 or 10043-66-0 NIOSH: — SAX: —	Carcinogen / Radioactive	ı			40 mrem ede/yr	N/A	
lodine (10)   8	Todine 133	Carcinogen / Radioactive			1	40 mrem ede/yr	N/A	
Iron (c) 14 Fo Ancor EN 80/150   Carbonyl Iron   Armeo Iron	7439896 or 7439-89-6 NIOSH: NO 4565500 SAX: IQK800	Harmful		1,000		300	N/A	01
1sophorone 14 1		Carcinogen	ı	1	4.38	360	N/A	01
Lead (9) 4 C.I. 77575 § C.I. Pigment Metal 4 § Glover § Lead Flake § Lead 22 § Omaha § Omaha & Grant § SI § SO	7439921 or 7439-92-1 NIOSH: OF 7525000 SAX: LCF000	Toxin	82 @ 100 mg/l hardness (12)	3.2 @ 100 mg/l hardness (12)	49	15	0.1	E

CARRIAN   ACCORDANCE   Accord	December, 1995 CIRCULA	CIRCULAR WQB-7, MON	TANA NUMER	MONTANA NUMERIC WATER QUALITY STANDARDS	JALITY STANI	DARDS (6)		Page	Page 25 of 39 pages
	Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '-' indicates that a Sta	ndard has not been a	lapted or information is	currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	ailed note of explan	tion is provided.
State of Chemics of Companies	PARTITION	CASRN, NIOSH and		Aquatic Life St	andards (16)		T. 1. 10 C. 1. 1.		Required
10.000	Dement / Chemkal Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	ruman neaun Mandards (17)	(22)	Value (19)
1439965 or 7499965   Hermful	Malathion # Formal # Sumitox # Emmatos # Cetthion # Forthion # Malacide # Kop-Thion # Formal # Sumitox # Emmatos # Cetthion # Forthion # Malacide # Kop-Thion # Calmation # Carbethoxy # NCI C00215 # Carbethoxy Malation # SHQ 057701 # Phosphothion # S-1,2-Bia(Ethoxycachony))Ethyl-O,O-Dimethyl Thiophosphate # O,O-Dimethyl-S-(1,2-Dienfethyl-Thiophorolithionte # Succinic Acid, mercapto, diethyl eater, # S.Ester with O,O-Dimethyl Phosphorodithionte	121755 or 121-75-5 NIOSH: WM 840000 SAX: CBP000	Toxin		1.0		1	I	
7 (9)   149976 or 749976   149976 or 7499976   149976 or 7499976   1499976 or 7499976   1499976 or 74999976   1499976 or 74999999999999999999999999999999999999	Manganese (9)  13 Mn  1 Colloidal Manganese   Magnacat   Tronamang	7439965 or 7439-96-5 NIOSH: OO 9275000 SAX: MAP750	Hermful			1	95	N/A	\$
Meter # Mozie # Methorcide # NCI C00497 # Methory-DDT	Mercury (9)  14 Hg  1 Colloidal Mercury 1 Mercury, Metallic 1 NCI C60399 1 Quick Silver 1 RCRA  Wasse Number U151	7439976 or 7439-97-6 NIOSH: OV 4550000 SAX: MCW250	Toxin with BCF >300	2.4	0.012	5,500	0.14	N/A .	0.6
14873 or 74.87.3   Toxin   —   3.75	Methorychlor ## Metox # Moxie # Methoxcide # NCI C00497 # Methoxy-DDT # Dimethoxy-DDT # RCRA Wate Number U247 # 1,1,1-Trichloro-2,2-Bis(p-Methoxypteny)Ethane # Benzene, 1,1-(2,2,2-Trichloroethylidene)Bis(4-Methoxypteny)Ethane # Bis(p-Methoxybeny)P- # 1,1-(2,2,2,2-Trichloroethylidene)Bis(4-Methoxybenzene) # Ethane, 1,1,1-Trichloro-2,2-Bis(p-Methoxypteny)P-	72435 or 72-43-5 NIOSH: KJ 3675000 SAX: DOB400	Toxin	1	0.03	I	04	0.04	
2385855 or 2385-85-5 Toxin — 0.001 NIOSH: PC 8225000 SAX: MQW500  1H-  91203 or 91-20-3 NIOSH: Q1 0525000  Toxin — — — — — — — — — — — — — — — — — — —	Methyl Chloride # Chloromethine # Arctic # Monochloromethine # RCRA Waste Number U045	74873 or 74-87-3 NIOSH: PA 6300000 SAX: CHXS00	Toxin		ı	3.75	1	80.0	1
91203 or 91-20-3 Toxin — — — NIOSH: Q1 0525000	Mirex  § NCI C06428 § Dechlorane § Bichlorendo § Ferriamicide § Perchloroperatecyclodecane § Dodecachloroperatecyclodecane § Perchloroperatecyclodecane § Dodecachloroperatecyclodecane § Rexachloroperatecyclo(5.2.1.0(sup 2.6).0(sup 3.9).0(sup 5.8).Decane § Perchloroperatecyclo(5.2.1.0(sup 2.6).0(sup 3.9).0(sup 5.8).Decane § Dodecachloroocathydro-1.3.4-Metheno-2H-Cyclobuta (c.0)Pertaltene § 1,1a.2.2.3.3.a.4.5.5,5.a.5,6.Decachlorocathydro-1.3.4-Metheno-IH-Cyclobuta(cd)Pertaltene § 1,2.2.2.3.3.a.4.5.5,5.a.5,6.Decachlorocathydro- 1,1a.2.2.3.3.a.4.5.5,5.a.5,6.Decachlorocathydro-	2385855 or 2385-85-5 NIOSH: PC 8225000 SAX: MQW500	Toxin	1	100'0	1	I	0.01	0.1
umber U165	Naphthalene ## — ## — ## Moth Balls # Mighty 150  # NCC C52904  # Naphthene  # White Tar  # Moth Balls # Naphthalin  # Tar Camphor  # Carvell Number 587  # RCRA Waste Number U165 # EPA Pesticide Chemical Code 055801	91203 or 91-20-3 NIOSH: QJ 0525000 SAX: NAJ500	Toxin	1	1	10.5	. 1	0.04	01

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUME	RIC WATER OF	JALITY STAND	ARDS (6)		Page	Page 26 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (µg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been a	dapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided.	alled note of explan	ation is provided.
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	2AX Numbers (25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting Value (19)
Nickel (9) \$§ Ni § C.I. 77775 § Ni 270 § Nickel 270 § Ni 0901-S § Ni 4303T § NP 2 § Raney Alloy § Raney Nickel	7440020 or 7440-02-0 NIOSH: QR 5950000 SAX: NCW500	Toxin	1,400 @ 100 mg/l hardness (12)	160 @ 100 mg/l hardness (12)		001	0.5	20
Nitrate (as Nitrogen[N]) 88 NO,	14797558 or 14797-55-8 Toxin NIOSH: — SAX: —	Toxin	•	<b>©</b>		10,000	10, Surface 2,500, Ground	10
Nitrite (as Nitrogen[N]) 11 NO,	14797650 or 14797-65-0 NIOSH: — SAX: —	Toxin	6	€		1,000	*	0
Nitrate plus mitrite (as Nitrogea(NJ) \$\$ NO, + NO,	17778880 or 17778-88-0 NIOSH: — SAX: —	Toxin/Harmful	(9)	€		10,000	10, Surface 2,500, Ground	10
Nitrobenzese #	98953 or 98-95-3 NIOSH: DA 6475000 SAX: NEX000	Toxin	ı		2.89	11	1.9	10
o-Nitrophesol # # 2-Nitrophenol # 2-Hydroxynitrobenzene	88755 or 88-75-5 NIOSH: SM 2100000 SAX: NIE500	Toxin	1	ı	2.33		0.45	
4-Nitrophesol  \$4  \$ H-Hydroxynitroberzzene \$ NCI C55992 \$ p-Nitrophesol (DOT) \$ RCRA Waste Number U170	100027 or 100-02-7 NIOSH: SM 2275000 SAX: NIF000	Toxin		ı	3.31	I	2.4	
N-Nitrosodi-N-Propylamine  \$ DPN \$ DPNA \$ NDPA \$ Dipropylnitrosamine \$ N-Nitrosodipropylamine  \$ DP-2 Propylativosamine \$ RCRA WAste Number UIII \$ Dipropylamine, N-Nitrosodi-n-propylamine \$ N-Nitrosodi-n-propylamine \$ N-Nitrosodi-n-propylamine \$ N-Nitrosodi-n-Propylamine \$ N-Nitroso-n-Propyl-	621647 or 621-64-7 NIOSH: JL 9700000 SAX: DWU600	Carcinogen	1	ı	1.13		NA	01
N.Nitrosodimethylamine  # Dimethylnitrosamine  # DMN # NDMA # DMNA # Nitrosodimethylamine # Dimethylnitrosomnine  # N-Nitrosodimethylamine # RCRA Waste Number F082 # N.N-Dimethylnitrosamine  # Methylamine, N-Nitrosodi # Dimethylamine, N-Nitroso- # N-Methyl-N-Nitrosomethanamine # Methylamine, N-Methyl-N-Nitrosomethanamine # Methylamine, N-Methyl-N-Nitrosomethanamine, N-M	62759 or 62-75-9 NIOSH: 1Q 0525000 SAX: DSY400	Carcinogen	1	1	0.026	6900'0	N/A	10

December, 1995 CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUME	RIC WATER OF	JALITY STAND	ARDS (6)		Page	Page 27 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	dapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided.	ailed note of explan	ation is provided.
Pollutent	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)		n 10 to 10 t		Required
Element / Chemical Compound or Condition	(25) (26) (77)	Category (I) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	numan neaun Mandards (17)	i ngger value (22)	Keporting Value (19)
N-Nitrosodipheorylamine  # NODA # NDPA # Vultrol # Curetard A # NCI C02880 # Redax # TJP # Reader J # Vulcaiers A # Vulcatard # Vultrol # Nitrosofiphenylamine # Diphenylativosamine # N.N-Diphenylativosamine # N-Nitroso-N-Phenylamine # Diphenylamine, N-Nitroso- # Benzenamine, N-Nitroso-N-Phenylamine	86306 or 86-30-6 NIOSH: JJ 980000 SAX: DWI000	Carcinogen		-	136	95	N/A	01
N-Nitrosopyrrolidese # — # N-N-pyr # 1-Nitrosopyrrolidese # Pyrrolidine, 1-Nitrosopyrrole # Pyrrolidine, 1-Nitrosopyrrole # Pyrrole, Tetrahydro-N-Nitrosopyrrole # Pyrrole, Tetrahydro-N-Nitroso-	930552 or 930-55-2 NIOSH: UY 1575000 SAX: NLP500	Carcinogen	1	_	0.055	0.17	N/A	10
Oder (13) 11 —	N/A	Harrnful	-	_	1	-	N/A	-
Ozamyl # — # D-1410 # DPX 1410 # Insecticide-Nematicide 1410 # Vydate # Thioxamyl # D-1410 # DPX 1410 # Pydate L. Insecticide-Nematicide # Methyl 2-(Dimethylamino)-N- # Vydate L. Insecticide-Nematicide # ({Methylamino)Carbonyl}Oxy)-2-Oxoethanimidothioate # 2-Dimethylamino-I- (Methylamino)Goxyl-Informimidate # Methyl I-Dimethylcarbamoyl)-N ((Methylcarbamoyl)Oxy)-1-Thioxamimidate # Methyl N.'N.'Dimethyl-N- ((Methylcarbamoyl)Oxy)-1-Thioxamimidate # N.'N.'Dimethyl-N- ((Methylcarbamoyl)Oxy)-1-Methylthioxamimidate Acid	23135220 or 23135-22-0 NIOSH: RP 2300000 SAX: DSP600	Toxin	1	I		200	-	-
Oxygen, dissolved (20)  §§ 0.)  § Oxygen, Compressed § Oxygen, Refrigerated Liquid	7782447 or 7782-44-7 NIOSH: RS 2060000 SAX: OQW000	Toxin	(3) (13)	(61)	1	_	8	001
Parathion  19— 19— 19 DNTP § Nina § Phostil § Paradur § Stathion § Strathion § Peatox Plus § Nitrostigmine § Parathion Ethyl § Parathion-cthyl § Ethyl Parathion § Dichylparathion § Carwell Number 637 § RCRA Waste Number P089 § EPA Pesticide Chemical Code 657501 § Dichyl 4-Nitrophenylphosphorothione § Dichyl para-Nitrophenyl Thiophosphate § Dichyl-p-Nitrophenyl Monothiophosphate § O.O. Dichyly O-Nitrophenyl Thiophosphate § Phosphorothiote Acid, O.O-Dichyly O-(4-Nitrophenyl) Ester	56382 or 56-38-2 NIOSH: TF 4920000, dry TF 4950000, liquid SAX: PAK250, dry SAX: PAK260, liquid	Toxin	990'0	£10°0	ì		90:0	-
Pertachlorobenzene  # -  # QCB # Benzene, Pentachloro- # RCRA Watte Number U183	608935 or 608-93-5 NIOSH: DA 6640000 SAX: PAV500	Toxin with BCF >300	_		2,125	3.5	N/A	0.1

December, 1995 CIRCUL	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS (6)	TANA NUME	RIC WATER OL	JALITY STANI	ARDS (6)		Page	Page 28 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (µg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been a	dapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided.	iled note of expla	tation is provided.
Pollistant	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (3)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Reporting Value (19)
Pentachlorophenol  # — PCD # Penta # Durotox # Weedone # Chem-Tol # Lauxtol A # NCI C54933 # NCI C55378 # NCI C56655 # Permite # Dowcide 7 # Permacide # Penta-Kil # Permagend # Penchlorol # Chlorophen # Pentachorphenol # Pentachorophenol # Thompson's Wood Fix # Phenol, Pentachlorope # 1-Hydroxy-2,3,4,5,6-Pentachloroberzene	87865 or 87.86-5 NIOSH: SM 630000 SAX: PAX250	Cercinogen	20 @ pH of 7.8 (14)	13 @ pH of 7.8 (14)	=	-	<b>V</b> /V	0.05
pH (13) §§ —	N/A	Harmful - Surface Narrative - Ground					N/A	
Phenanthrene (PAH)  11 —  1 Phenantin	85018 or 85-01-8 NIOSH: SF 7175000 SAX: PCW250	Toxin		1	30		10.0	0.25
Phenol ## Part   Public   Phenol   Phenol   Phenol   Phenol   Part   Par	108952 or 108-95-2 NIOSH: SI 3325000 SAX: PDN750	Hermful	1		<b>*</b> 1	300	N/A	2
Phosphorus, inorganic (?) (20)  #	14265442 or 14265-44-2 NIOSH: SAX:	Harmful	<b>©</b>	€	1		_	_
Fictorum  # ATCP   K-Pin   Tordon   Borolin   Amdon Grazon   NCI C00237   Tordon 10K   Tordon 22K   Tordon 10I Mixture   3,5,6-Trichloro-4-Aminopicolinic Acid   4-Amino-3,5,6-Trichloropicolinic Acid	1918021 or 1918-02-1 NIOSH: TJ 7525000 SAX: AMU250	Toxin	I	I	1	005	0.14	_
Pyrene (PAH)  §§ — — — — — — — — — — — — — — — — — —	129000 or 129-00-0 NIOSH: UR 2450000 SAX: PON250	Carcinogen	ı	ı	30	009'6	N/A	0.25
Radium 226 }}	Radium 226 13982636 or 13982-63-6 NIOSH: — SAX: —	Carcinogen / Radioactive		l		200 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	I
Radium 228	Radium 228 15262201 or 15262-20-1 NIOSH: — SAX: —	Carcinogen / Radioactive		1		200 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	***

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Except where indicated, values are listed as micro-grams-per-liter (eg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	andard has not been	idapted or information i	currently unavailable	ď	A '(n)' indicates that a detailed note of explanation is provided.	ailed note of explan	ation is provided.
Politican	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	(25) (26) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Muman Health Standards	Trigger Value	Reporting Value (19)
Radon 222 8f	14859677 or 14859-67-7 NIOSH: — SAX: —	Carcinogen / Radioactive			_	3000 picocuries/liter	V/V	
Sediment, settdable solids, olls, grease, or floating solids (18)  § ***  * Methylene Blue Active Substances, § Residue, non-filterable, § Residue, non-settleable, § Settleable matter, § Oil & Grease, § Total Organic Carbon,	NA	Narrative (13)	ı	<u> </u>	ı		N/A	-
Scientum (*)  § Se    § C.    § Selenium Base § Selenium Durt § Selenium Elemental § Selinium Homopolymer § Selenium Metal Powder, Non-Pyrophoric § Vandex	7782492 or 7782-49-2 NIOSH: VS 7700000 VS 8310000, colloidal SAX: SBO500 SAX: SBP000, colloidal	Toxin	20	s	٥	05	9.0	_
Silver (9) # Ay # Argentum # C.I. 77820 # Shell Silver # Silver Atom	7440224 or 7440-22-4 NIOSH: VW 3500000 SAX: SDI500	Toxin	4.1 @ 100 mg/l hardness (12)		0.5		0.2	
Somezine  # CDT # Herbox # Framed # Bitemol # Radokor # A 2079 # Batazina  # CDT # Herbox # CET # G 27692 # Geigg 21,692 # Gearen # Geasop 50  # Simuzine 80W # Symazine # Taphazine # W 6658 # Zeapur # Princep  # Aquazine # Herboxin # Tafacine # 2.4-Rutghtylamino)-6-Chlorox-Frinzine  # I-Chlorox, 3.5-Bitethylamino-2.4,6-Triazine # 2-Chlorox-6-Bitethylamino)-1,3,5-  Triazine # 6-Chlorox, N.V.: Diethyl-1,3,5-Triazine-2,4-Diyldiamine	122349 or 122-34-9 NIOSH: XY 525000 SAX: BJP000 •	Carcinogen	I	· I	1	•	N/A	0.3
Sroutium 89 (16) H	14158271 or 14158-27-1 NIOSH: — SAX: —	Carcinogen / Radioactive	1	1	1	40 mrem edelyr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	1
Strontium 90 (19) H —	10098972 or 10098-97-2 NIOSH: — SAX: . —	Carcinogen / Radioactive	-	ı	I	40 mrem ede/yr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	
Syrtene \$ Styrol \$ Cinnameno \$ Cinnamenol \$ NCI C02200 \$ Styrole \$ Styrole \$ Styrole \$ Stropor \$ Vinylenzol \$ Phenchylene \$ Stropor \$ Vinylenzol \$ Phenchylene \$ Phenchylene \$ Phenchylene \$ Styrone.	100425 or 100-42-5 NIOSH: WL 3675000 SAX: SMQ000	Toxin	1	1	l		0.008	5.0

December, 1995 CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	R WQB-7, MON	TANA NUMEI	RIC WATER Q	UALITY STANI	ARDS (6)		Page	Page 30 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (µg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been a	dapted or information	is currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided.	ailed note of explan	tion is provided.
DATES	CASRN, NIOSH and		Aquatic Life Standards (16)	tandards (16)	ē			Required
Element / Chemical Compound or Condition	(2) (4) (2)	Category (1) (3)	Acute (3)	Chronic (4)	Factor (BCF) (5)	ruman Hearth Mandards (17)	(22)	Value (19)
Salfate §§ SO,	8-62-9	Narrative (19)		1	1		V/V	000'1
Temperature (13)	N/A	Harmful	1	-	1		N/A	ŀ
1,2,4,5-Tetrachlorobenzene ## # RCRA Watte Number U207 # Tetrachlorobenzene, 1,2,4,5- # Benzene, 1,2,4,5- Tetrachloro-	95943 or 95-94-3 NIOSH: DB 9450000 SAX: TBN750	Toxin with BCF >300		-	1,125	2.3	NA	0.1
1,1,2,2-Tetrachlorochane  1,	79345 or 79:34-5 NIOSH: KI 8575000 SAX: ACK500	Carcinogen	ı	_	s	<i>t</i> .1	N/A	0.5
Tetrachlorochlyleae  §§ —  NCI CO4580 § PCE § Pert § PERC § ENMA § Dow-Per § Perchlor  § Perclane § Pertlone § Diddrene § Tern Cap § Percoalve § Perchlorothylene  § Perchlorochlylene § Tetrachlorochlylene  § RCRA Wate Number U210 § Ehylene Tetrachloride § Ehylene, Tetrachlorochlylene	127184 or 127-18-4 NIOSH: KX 385000. SAX: TBQ250	Carcinogen		1	30.6	8	N/A	0.5
Thallium (*) §§ TT §§ Ramor	7440280 or 7440-28-0 NIOSH: XG 3425000 SAX: TEI000	Toxin	-	1	119	1.7	0.3	8
Toluene \$\$	108883 or 108-88-3 NIOSH: XS 525000 SAX: TGK750	Toxin	· ·	I	10.7	1,000	0.01	0.5
Total dissolved solids (29) 14 TDS 5 Solids, total dissolved	Multiple	Narrative (18)		1	-	1	N/A	000'01
Toxaphene  1 Attec 4.2 † Alltox   Alltex   Attac 6   Toxakij   Agricide   Chem-Phene   Attec Chem T-590   Compound 3956   Crestox   Eatonox   Geniphene   Corp. Chem T-590   Compound 3956   Crestox   PCC   Phensichene   Gy-Phene   Herules 3956   Melipax   Motox   PCC   Phensicide   Phenatox   Toxadust   Camphechlor   Maggot Killer (F)   Toxaphene mixture   Chlorinated-Camphene   Camphene, Octachloro-   RCRA Wasta Number P123	8001352 or 8001-35-2 NIOSH: XW 525000 SAX: THH750	Carcinogen	0.73	0.0002	13,100	0.0073	N/A	

December, 1995 CIRCULA	CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS	TANA NUMEI	RIC WATER OF	UALITY STANI	DARDS (6)		Page	Page 31 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (µg/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been a	dapted or information i	s currently unavailable		A '(n)' indicates that a detailed note of explanation is provided	alled note of explan	tion is provided
And the state of t	CASRN, NIOSH and		Aquatic Life Standards (16)	andards (16)				Required
Element / Chemical Compound or Condition	SAX Numbers (25) (36) (27)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting
1,2,4-Trickhorobenzene ## ## unsym-Trickhorobenzene # Trickhorobenzene, 1,2,4- # Benzene, 1,2,4-Trickhoro-	120821 or 120-82-1 NIOSH: DC 2100000 SAX: TIK250	Toxin		_	114	70	0.02	0.5
1,1,1-Trichloroethane  14.—  1 a-T & Strobane & Inhibitol & 1,1,1-TCE & Tri-Ehane & Solvent 111  2 Aerohane & Chloroethene & Chlorten & NCI CO4626 & Methylchloroform  4 Methyl Chloroform & Chloroform, Methyl. # 1,1,1-Trichloroethene & alpha- Trichloroethane & Methyltrichloromethane & RCRA WAnte Number U226  5 Trichloroethane, 1,1,1- & Ethane, 1,1,1-Trichloro-	71556 or 71-55-6 NIOSH: KJ 2975000 SAX: TIM750	Carcinogen		-	5.6	200	N/A	0.5
1,1,2-Trichloroethane  # 5-7  # 1-7	79005 or 79-40-5 NIOSH: K7 31 50000 SAX: TINO00	Carcinogen	-	1	4.5	5	N/A	0.5
1richlorocthylene  # Tread # Viran # Algylen # Dow-Tri # Landin # Vestrol # Anamenth # Benzinol # Tri-Plus # Tri-Clene # Trichlorocthene # Trichlorocthuse # Tri-Clorethylene # Tertachorocthene # Enchlorocthylene # Trichlorocthene # Enchlorocthylene # Ethylene, Trichloroc- # Enchlorocthylene # 1.2.2-Trichlorocethylene # 1.1.1.2  Trichlorocthylene # 1.2.2-Trichlorocethylene # 1.1.1.  Dichloro-2-Chlorocethylene # 1.2.2-Trichlorocethylene # 1.1.1.	79016 or 79-01-6 NIOSH: KX 455000 SAX: TIO750	Carcinogen	ı	1	10.6	<b>v</b> n	N/A	5.0
Trichloroffsoromethane (BM)  ##—  # FILL # FC II # Fron II # Arcton 9 # Eakimon II # Halocarbon II  # Algofrene Type I # RCRA Wasse Number UI2I # Fluorocarbon Number II  # NCI C04637 # Isoton II # Fluorotrichloromethane # Iscon I3I  # Monofluorotrichloromethane # Ucon Refrigerant II # Trichloromonofluoromethane	75694 or 75-69-4 NIOSH: PB 6125000 SAX: TIP500	Toxin	1	I	3.75	10,000	0.07	0.5
2,4,5-Tricblerophesol ## # Nurelle # Dowcide B # Dowcide 2 # Collunosol # Preventol ! # Trichlorophesol, 2,4,5- # RCRA Weste Number U230 # NCI C61187	95954 or 95-95-4 NIOSH: SN 1400000 SAX: TIV750	Hermful	•		011	-	N/A	10
2,4,6-Trichlorophenol # - # Ornal # Doweide 28 # Phenachlor # RCRA Watte Number U231 # Trichlorophenol, 2,4,6- # Phenol, 2,4,6-trichloro- # NCI C02904	88062 or 88-06-2 NIOSH: SN 1575000 SAX: TIW000	Carcinogen	1	I	150	21	N/A	10

December, 1995 CIRCULA	CIRCULAR WQB-7, MON	TANA NUMER	MONTANA NUMERIC WATER QUALITY STANDARDS	ALITY STAND	ARDS (6)		Page	Page 32 of 39 pages
Except where indicated, values are listed as micro-grams-per-liter (ag/L).	A '' indicates that a Standard has not been adapted or information is currently unavailable.	ndard has not been ad	lapted or information is	currently unavailable.		A '(n)' indicates that a detailed note of explanation is provided	iled note of explan	tion is provided
Dollard sand	CASRN, NIOSH and		Aquatic Life Standards (16)	ndards (16)				Required
Element / Chemical Compound or Condition	(2) (2) (2)	Category (1) (2)	Acute (3)	Chronic (4)	Factor (BCF) (5)	Human Health Mandards (17)	Ingger value	Keporting Value (19)
2 (2,4.5-Trichlorophenoxy) Proprionic Acid ##	93721 or 93-72-1 NIOSH: UF 8225000 SAX: TIX500	Toxin	1		ı	01	0.075	1.0
Tribalomethanes, total	Multiple	Carcinogen			-	100	N/A	2
Tritium (19) 11 H²	10028178 or 10028-17-8 NIOSH: — SAX: —	Carcinogen / Radioactive				40 mrem ede/yr	V/N	-
Turbidity (13) (29) §§	NIA	Harmful	_				V/V	I NTU
Uranium, natural  §§ U  § Uranium Metal, Pyrophoric	7440611 or 7440-61-1 NIOSH: YR 3490000 SAX: UNS000	Cercinogen / Radioactive	-			300 picocuries per liter.	N/A	ı
Vinyl Chloride  #\$ —  # VC # VCM # Chlorethene # Chlorethylene # Chlorethylene # WC # VCM # Chlorethylene # Ethylene Monochloride # RCRA Wate Number U043 # Vinyl Chloride Monomer # Vinyl C Monomer # Trovidur	75014 or 75-01-4 NIOSH: KU 9625000 SAX: VNP000	Carcinogen	1	_	1.17	2	N/A	0.5
Xylenes ##— # Xylol # Violet 3 # Mixed Xylenes # Methyl Toluene # Dimethylbenzene # RZRA Warte Number UZ39 # NCI C55232 # Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin				10,000	0.5	1.5
Xylenes  \$\frac{4}{8} - \\ \frac{4}{8} - \\ \frac{4}{8} \text{ Notes 3 \ \} \text{ Mixed Xylenes \ \} \text{ Methyl Toluene \ \} \text{ Dimethylbenzene \} \\ \frac{8}{8} \text{ RCRA Wass Number U239 \ \} \text{ Total equals the sum of meta, ortho, and para.} \end{align*}	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin		_	-	10,000	0.5	1.5
Xylenes ##  # Xylol # Violet 3 # Mixed Xylenes # Methyl Toluene # Dimethylbenzene # Xylol # Waste Number UZ39 # Total equals the sum of mets, ortho, and pars.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	ŀ	-	1 .	10,000	0.5	1.5
m-Xylene ## — ## m-Xylene # meta-Xylene # m-Dimethylbenzene # m-Methyltoluene # 1,3-Dimethylbenzene # 1,3-Dimethyl Benzene	108383 or 108-38-3 NIOSH: ZE 2275000 SAX: XHA000	Toxin	-	1	I	10,000	0.004	1.5

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Except where indicated, values are listed as micro-grams-per-liter (µg/L).	A '-' indicates that a Standard has not been adapted or information is currently unavailable.	indard has not been	dapted or information	is currently unavailable.		A '(n)' indicates that a detailed note of explanation is movided	ailed note of explan	ation is provided
Pollutant	CASRN, NIOSH and		Aquatic Life S	Aquatic Life Standards (16)	II .			Required
Element / Chemical Compound or Condition	(2) (20) (2)	Category (1) (2)	Acute (3)	Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards	Trigger Value	Reporting
o-Xylene	95476 or 95-47-6	Toxin				10,000	0.004	1.5
1.2-Dimethylbenzene   1.2-Dimethyl Benzene	SAX: XHJ000							
p-Xylene	106423 or 106-42-3	Toxin	1	*	1	10,000	0.002	1.5
p-Xylol & Chromar § Scintillar § 1,4-Xylene § para-Xylene § p-Methyltoluene § p-Dimethylbenzene § 1,4-Dimethyl Benzene	SAX: XHS000							
Zinc (?)	7440666 or 7440-66-6 NIOSH: ZG 8600000	Toxin	120 @ 100 mg/l	110 @ 100mg/l	47	5,000	5	10
Blue Powder & C.I. 77945 & C.I. Pigment Black 16 & C.I. Pigment Metal 6	SAX: ZBIOO			(11)		,		
or Dust, non-Pyrophoric § Zinc, Powder or Dust, Pyrophoric						•		

#### DETAILED NOTES OF EXPLANATION CIRCULAR WQB-7

### Frequently used Acronyms:

Name of Primary Synonym as listed in the EPA's data base IRIS. §§ abc...

Name of Additional Synonyms from various sources including IRIS. § abc...

Bio-concentration Factor. BCF

Code of Federal Regulations. CFR

Effective dose equivalent per year. **EDE/YR** 

Environmental Protection Agency. E.P.A. A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life. FPH

A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life.

Halomethanes. HW Method Detection Limit. The MDL is calculated from the standard deviation of replicate measurements, and is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99% confidence that the analyte concentration is greater than zero. MDL

Milli Roentgen-Equivalent-Man. MREM

Not applicable. Y/N

Not determined. n.d.

Nephelometric Turbidity Unit. Z Polynuclear Aromatic Hydrocarbons. PAH

Polychlorinated Biphenyls. PCB

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# CIRCULAR WQB-7 DETAILED NOTES OF EXPLANATION

TCAP A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life.

- Based on EPA's categories and include parameters determined to be to toxic (toxin), carcinogenic (carcinogen), or harmful. Harmful parameters include nutrients, biological agents, and those parameters which cause taste and/or odor effects or physical effects. ε
  - Carcinogens: chemicals classified by EPA as carcinogens for an oral route of exposure; Standards are based upon the incremental risk of causing one additional instance of cancer in one thousand persons. Includes those parameters in classifications A (Human Carcinogen), B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen). છ
- (3) No sample shall exceed these concentrations.
- (4) No four-day (96-hour) or longer period average concentration shall exceed these values.
- All bioconcentration factors (BCF's) were developed by the EPA as part of the Standards development as mandated by Section 304(a) of the Federal Clean Water Act. Values shown are current as of 07/01/1993. ତ
- (6) No sample shall exceed these concentrations.

Standards for metals (except aluminum) in surface water are based upon the analysis of samples following a "total recoverable" digestion procedure (Section 9.4, "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

Standards for metals in ground water are based upon the dissolved portion of the sample (after filtration through a 0.45 µm membrane filter, as specified in "Methods for Analysis of Water and Wastes", 1983, Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

For aluminum, both surface and ground water analyses will be based on the dissolved method of analysis.

Freshwater Aquatic Life Standards for total ammonia nitrogen (mg/l NH,-N plus NH,-N) are expressed as a function of pH and temperature. The Acute equation and the Chronic equation are as follows:  $\epsilon$ 

0.52/FT/FPH/2) where FT		$= 10^{0.03 \cos 7 \cos 7}$ $= 10^{0.03 \cos 7 \cos 7}$	if $TCAP \le T \le 30$ if $0 \le T < TCAP$
FPH	11 11	$= 1$ $= (1 + 10^{7.49H})/1.25$	if $8 \le pH \le 9$ if $6.5 \le pH < 8$

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#### DETAILED NOTES OF EXPLANATION CIRCULAR WQB-7

= 20° C

if Salmonids or other sensitive cold-water species present.

= 25° C

if Salmonids and other sensitive cold-water species absent.

The usual Acute averaging period of one hour is not appropriate if excursions of concentrations to greater than 1.5 times the average occur during the hour; in such cases, a shorter averaging period will

Chroniche = 0.822 x (0.80/FT/FPH/RATIO) where FT and FPH are as above and:

if 7.7 ≤ pH ≤ 9

 $= 20(10^{7.7} + 10^{7.4} + 10^{7.4})$ 

if 6.5 ≤ pH < 7.7

= 15° C TCAP  $= 20^{\circ} C$ 

if Salmonids/other sensitive cold-water species present. if Salmonids/other sensitive cold-water species absent. Because these formulas are non-linear in pH and temperature, the Standard is the average of separate evaluations of the formulas reflective of the fluctuations of flow, pH, and temperature within the averaging period; it is not appropriate to apply the formula to average pH, temperature and flow.

These formulas yield the allowable concentration of NH3-N. To convert these values to the total ammonia as nitrogen (mg/l NH3-N plus NH4-N) which is the usual way that analytical results are expressed the following formula must be used.

Total ammonia as nitrogen = NH<sub>3</sub>-N x (1+10<sup>PKA-pH</sup>)

Where PKA = 0.09018 + 2729.92/T

and T = degrees centigrade + 273.2

- A plant nutrient, excessive amounts of which may cause violations of Administrative Rules of Montana (ARM) 16.20.633.(1)(e). €
- 9
- Approved methods of sample preservation, collection, and analysis for determining compliance with the standards set forth in WQB-7 are found in:
  1) 40 CFR Part 136 "Guidelines Establishing Test Procedures For the Analysis Of Pollutants", July 1, 1992, and;
  2) The Environmental Protection Agency's (EPA) Methods for the Determination of Metals in Environmental Samples, EPA/600 4-91/010, dated June 1991, or equivalent, as determined by the Department.

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# CIRCULAR WQB-7 DETAILED NOTES OF EXPLANATION

- Radionuclide photon-emitters consisting of either beta or gamma emitters and are classified as carcinogenic. Their associated Standard is based upon a 4 mrem ede/yr exposure. This exposure is based upon daily ingestion of 2 liters of water. The emitters covered under this Standard are: 9
- Gamma photon emitters Strontium -89 and -90, radioactive • Cesium, radioactive • Iodine, radioactive
- Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the Standard derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending. £
- Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3). The values displayed in the chart correspond to a total hardness of 100 mg/l. The hardness relationship is as follows: 3

	Acute = ex	Acute = exp{ma[ln(hardness)]+ba}	Chronic = exp{mc[ln(hardness)]+bc}	in(hardness)]+bc}	
	ша	Ья	шс	ş	
cadmium	1.128	-3.828	0.7852	-3.490	
copper	0.9422	-1.464	0.8545	-1.465	
chromium (III)	0.8190	3.688	0.8190	1.561	
lead	1.273	-1.460	1.273	4.705	
nickel	0.8460	3.3612	0.8460	1.1645	
silver	1.72	-6.52	*****		
zinc	0.8473	0.8604	0.8473	0.7614	

Note: If the hardness is <25mg/L as CaCO3, the number 25 will be used in the calculation. If the hardness is greater than or equal to 400 mg/L of CaCO3, 400 mg/L will be used in the calculation.

- Conditional limitations based upon Water-Use Classifications. See Administrative Rules of Montana (ARM), Title 16, Chapter 20 Water Quality, Sub-Chapter 6 SURFACE WATER QUALITY STANDARDS. For groundwater see the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq. 3
- Freshwater Aquatic Life Standard for pentachlorophenol are expressed as a function of pH. Values displayed in the chart correspond to a pH of 7.8 and are calculated as follows: €

(15) Freshwater Aquatic Life Standard for dissolved oxygen are as follows:

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Standards for Waters Classified Standards for Waters classified

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### DETAILED NOTES OF EXPLANATION CIRCULAR WQB-7

	A-1, B-1, B-2, C-1, and C-2	-1, and C-2	B-3, C-3, and I	
	Early Life Stages <sup>1,2</sup>	Other Life Stages	Early Life Stages <sup>2</sup>	Other Life Stages
30 Day Mean	N/A³	6.5	N/A³	5.5
7 Day Mean	9.5 (6.5)	NA	6.0	NA
7 Day Mean Minimum	N/A³	5.0	N/A³	4.0
1 Day Minimum4	8.0 (5.0)	4.0	5.0	3.0

inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have These are water column concentrations recommended to achieve the required early life stages exposed directly to the water column, the figures in parentheses apply.

Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

N/A (Not Applicable).

All minima should be considered as instantaneous concentrations to be achieved at all times.

Aquatic Life Standards apply to surface waters only. (<u>1</u>6

For surface waters the Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standard. For groundwaters the standards are based on the dissolved portion (after filtration through a 0.45 micro filter) of the contaminating substance as specified in the EPA publication, EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes." E

The Narrative Standards are located in the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq. 38

The required 'Reporting Value' is the Department's best determination of a level of analysis that should be achieved in routine sampling. It is based on levels actually achieved at both commercial and government laboratories 6

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# CIRCULAR WQB-7 DETAILED NOTES OF EXPLANATION

in Montana using accepted methods. 'Reporting Value' is the detection level that must be achieved in reporting ambient or compliance monitoring results to the Department. Higher detection levels may be used if it has been demonstrated that the higher detection levels will be less than 10% of the expected level of the sample.

- (20) Applicable to surface waters only.
- (21) Applicable to ground waters only.
- Estimated Detection Levels (EDL's) are used as "Trigger Values" whenever MDL's are unavailable. Trigger Values are used to determine whether-or-not a given increase in the concentration of Toxic parameters is significant or non-significant as per the non-degredation rules. **5**7
- Levels of individual petrochemicals in the water column should not exceed 0.010 of the lowest continious flow 96-hour LCs to several important freshwater species, each having a demonstrated high susceptibility to oils and petrochemicals. ପ୍ତି
- Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life. 3
- (25) CASRN is an acronym for the American Chemical Society's Chemical Abstracts Service Registry Number.
- NIOSH RTECS number is a unique number used for accession to the National Institute For Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances. 9
- SAX number in the format AAA123 is a unique number for identification of materials in the Dangerous Properties of Industrial Materials, authors N. Irving Sax and Richard J. Lewis, publisher Van Nostrand Reinhold. ઉ

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